STIC Search Report
EIC 1700

STIC Database Tracking Number: 119734

TO: Dawn Garrett
Location: REM 5C75
Art Unit : 1774
April 20, 2004

Case Serial Number: 10/625096

From: Barba Koroma
Location: EIC 1700
REM EO4 A30
Phone: 571 272 2546

barba.koroma@uspto.gov

Search Notes

Examiner Garrett,
Please find attached results of the search you requested. Various components of the claimed invention as spelt out in the claims were searched in multiple databases. For your convenience, titles of hits have been listed to help you peruse the results set quickly. This is followed by a detailed printout of records. Please let me know if you have any questions.
Thanks.

Access DB# 119734

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 4/19/2004
Art Unit: 1774 Phone Number 272-1523 Serial Number: 10/625,096
Mail Box and Bldg/Room Location: Remsen 5C75 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Metallic complexes covalently bonded to Conjugated Polymers and Electronic Devices Containing such compounds

Inventors (please provide full names): Norman Herron, Howard Simmons, Daniel Lecloux, Frank Uckert

Earliest Priority Filing Date: 7/30/2002

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search polimeric metal composition (material) recited in claim 1.

Also attached is three pages from specification defining "first-type functional groups" and "first-type orient spacer groups".

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable
Searcher:	NA Sequence (#)		STN
Searcher Phone #:	AA Sequence (#)		Dialog
Searcher Location:	Structure (#)		Questel/Orbit
Date Searcher Picked Up:	Bibliographic		Dr.Link
Date Completed:	Litigation		Lexis/Nexis
Searcher Prep & Review Time:	Fulltext		Sequence Systems
Clerical Prep Time:	Patent Family		WWW/Internet
Online Time:	Other		Other (specify)

PTO-1590 (8-01)

```
=> file caplus
FILE 'CAPLUS' ENTERED AT 16:30:59 ON 20 APR 2004
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FILE COVERS 1907 - 20 Apr 2004  VOL 140 ISS 17
FILE LAST UPDATED: 19 Apr 2004  (20040419/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> file wpix
FILE 'WPIX' ENTERED AT 16:31:02 ON 20 APR 2004
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FILE LAST UPDATED:          18 APR 2004      <20040418/UP>
MOST RECENT DERWENT UPDATE:     200425        <200425/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE


>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
    PLEASE VISIT:
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    GUIDES, PLEASE VISIT:
    http://thomsonderwent.com/support/userguides/               <<<

>>> ADDITIONAL POLYMER INDEXING CODES WILL BE IMPLEMENTED FROM
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    THE TIME RANGE CODE WILL ALSO CHANGE FROM 018 TO 2004.
    SDIS USING THE TIME RANGE CODE WILL NEED TO BE UPDATED.
    FOR FURTHER DETAILS: http://thomsonderwent.com/chem/polymers/ <<<

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=> file compendex
FILE 'COMPENDEX' ENTERED AT 16:31:09 ON 20 APR 2004
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FILE LAST UPDATED: 13 APR 2004       <20040413/UP>
FILE COVERS 1970 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
    THE BASIC INDEX >>>

=> d que
L45       41785 SEA FILE=CAPLUS ABB=ON  PLU=ON  ORGANOMETALLIC
L46        2633 SEA FILE=CAPLUS ABB=ON  PLU=ON  ORGANOMETALLICS
L48      130111 SEA FILE=CAPLUS ABB=ON  PLU=ON  POLYMER?(L)METAL?
L50        3617 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L45 OR L46) AND L48
L55     2222963 SEA FILE=REGISTRY ABB=ON  PLU=ON  (M(L)C(L)H)/ELS
L56       73603 SEA FILE=REGISTRY ABB=ON  PLU=ON  L55 AND PMS/CI
L57       70245 SEA FILE=CAPLUS ABB=ON  PLU=ON  L56
L58       73658 SEA FILE=CAPLUS ABB=ON  PLU=ON  L50 OR L57
L60        2876 SEA FILE=CAPLUS ABB=ON  PLU=ON  L58 AND DEV/RL
L62          81 SEA FILE=CAPLUS ABB=ON  PLU=ON  L60 AND ELECTRONIC?
L64          44 SEA FILE=CAPLUS ABB=ON  PLU=ON  L62 AND (IMF OR RCT OR
                PREP)/RL
L65          44 SEA FILE=CAPLUS ABB=ON  PLU=ON  L64 AND (METAL? OR ELECTRONIC?
                OR APPARATUS?)
L69          41 SEA FILE=CAPLUS ABB=ON  PLU=ON  METAL?(5A)COMPLEX? AND
                POLYMER? AND ELECTRONIC?(5A)DEVICE?
L71          80 SEA FILE=CAPLUS ABB=ON  PLU=ON  L65 OR L69
L75          55 SEA FILE=CAPLUS ABB=ON  PLU=ON  L71 AND (IMF OR TEM OR
                PREP)/RL
L77          58 SEA FILE=WPIX ABB=ON  PLU=ON  METAL?(5A)COMPLEX? AND POLYMER?
                AND ELECTRONIC?(5A)DEVICE?
L78           7 SEA FILE=COMPENDEX ABB=ON  PLU=ON  METAL?(5A)COMPLEX? AND
                POLYMER? AND ELECTRONIC?(5A)DEVICE?
L80          19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L75 AND (LUMINESC? OR EL OR
                ELECTROLUMINESC? OR FLUORESC? OR PHOSPHORESC?)
L81          13 SEA FILE=WPIX ABB=ON  PLU=ON  L77 AND (LUMINESC? OR EL OR
                ELECTROLUMINESC? OR FLUORESC? OR PHOSPHORESC?)
L82           1 SEA FILE=COMPENDEX ABB=ON  PLU=ON  L78 AND (LUMINESC? OR EL OR
                ELECTROLUMINESC? OR FLUORESC? OR PHOSPHORESC?)
L85          29 DUP REM L80 L81 L82 (4 DUPLICATES REMOVED)


=> d ti 1-29 l85
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, WPIX' - CONTINUE? (Y)/N:y



L85  ANSWER 1 OF 29  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI   Metallic complexes covalently bound to conjugated
     polymers and electronic devices
```

L85 ANSWER 2 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Layer configuration comprising an electron-blocking element

L85 ANSWER 3 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Layer configuration with improved stability to sunlight exposure

L85 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Rhodium and iridium complexes

L85 ANSWER 5 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
TI **Polymers** having attached **luminescent metal complexes** and devices made with such **polymers**

L85 ANSWER 6 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Polymerized** cycloolefins using transition metal catalyst and end product optical articles for **electronic devices**

L85 ANSWER 7 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for preparing aromatic **polymers**

L85 ANSWER 8 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI **Luminescence**-capable material as component in optical device, e.g. **electroluminescent** device, comprises conjugated **polymer** or oligomer and organometallic group covalently bound to **polymer** or oligomer.

L85 ANSWER 9 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Organic **electroluminescent** device has hole transport layer and light emitting layer containing host substance and **phosphorescent** dopant.

L85 ANSWER 10 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Cleaning tableware for cleaning, sanitizing, and stain removal tableware, involves contacting tableware with aqueous cleaning liquor and bleaching liquor.

L85 ANSWER 11 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
TI **Polymers** having attached **luminescent metal complexes** and devices made with such **polymers**

L85 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Emissive multichromophoric systems

L85 ANSWER 13 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Phenazasiline-containing π-conjugated polymers, their manufacture, and their application

L85 ANSWER 14 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI **Electroluminescent** device, used in liquid crystal displays, includes an **electroluminescent** layer comprising a complex of a rare earth, transition, lanthanide or actinide metal and a non rare earth metal.

L85 ANSWER 15 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI New conjugated **polymers** especially useful as

electroluminescent materials in **polymeric** light-emitting diodes comprise spirobifluorene-type units and fluorene-type units,.

L85 ANSWER 16 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Semiconductor light emitting equipment has light-transmitting metalloxane gel layer covering semiconductor light emitting device anchored to the end of the one wiring conductor.

L85 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Novel Preparation and Photoelectrochemical Properties of a Tungsten Oxide/Tris(2,2'-bipyridine)ruthenium(II) Complex Composite Film

L85 ANSWER 18 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI **Electroluminescent** device for use in the development of organic semiconductor employs clay nanocomposite emissive layer spin coated with organic **luminescent** material/clay nanocomposite.

L85 ANSWER 19 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI The role of ruthenium and rhenium diimine complexes in conjugated polymers that exhibit interesting opto-**electronic** properties

L85 ANSWER 20 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Multi-component multiphase type polymer material and its use in functional element.

L85 ANSWER 21 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fabrication of **electronic** devices containing a columnar discotic phase

L85 ANSWER 22 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Materials for use in **electroluminescent** devices comprises an organic **complex** of a transition **metal**, lanthanide or an actinide.

L85 ANSWER 23 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Device used for detecting analytes in fluid which includes gases, vapors and liquids.

L85 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of Polymers with Alternating Organosilanylene and Oligothienylene Units and Their Optical, Conducting, and Hole-Transporting Properties

L85 ANSWER 25 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes

L85 ANSWER 26 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Electronic** and Light-Emitting Properties of Some Polyimides Based on Bis(2,2':6',2''-terpyridine) Ruthenium(II) Complex

L85 ANSWER 27 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
TI Development of **metal**-containing polymers for optoelectronic applications

L85 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
TI π-Conjugated **polymers** bearing electronic and optical functionalities. Preparation, properties and their applications

L85 ANSWER 29 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Crown moiety-containing peptide - useful as detector of sodium and potassium ions, **electronic device** material, etc..

=> d all 1-29 l85
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, WPIX' - CONTINUE? (Y)/N:y

L85 ANSWER 1 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2004:143238 CAPLUS
DN 140:182406
ED Entered STN: 22 Feb 2004
TI **Metallic complexes** covalently bound to conjugated **polymers** and **electronic devices**
IN Herron, Norman; Lecloux, Daniel David; Simmons, Howard E., III; Uckert, Frank P.
PA E. I. Du Pont De Nemours and Company, USA
SO PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C09K011-06
ICS H05B033-14; H01L051-20; H01L051-30; C08G061-02; C08G061-12
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 73, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004015025	A1	20040219	WO 2003-US23690	20030729
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004072018	A1	20040415	US 2003-625096	20030722
PRAI US 2002-399934P	P	20020730		

AB The **polymeric metal complexes** comprise **metallic** (e.g. La, Pt, Ir, Al) complexes covalently bound to conjugated **polymers** and **luminescent** materials containing such **polymeric metal complexes.** The **electronic luminescent devices** have active layer that includes such **polymeric metal complexes.** A **metal complex** of

IrOH[2-[2,4-(difluorophenyl)isoquinoline]2]2 (prepared from IrCl3 hydrate and (difluorophenyl)isoquinoline ligand) was prepared, which could be reacted with a copolymer containing fluorenyloxidiazole units.

ST **electroluminescent** device conjugated **polymer** **metal complex**

IT **Electroluminescent** devices
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 660393-98-6P 660393-99-7P 660394-03-6P
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 660393-99-7DP, fluorenyloxidiazole copolymer complex 660394-03-6DP, Ir complex
RL: **IMF (Industrial manufacture)**; **TEM (Technical or engineered material use)**; **PREP (Preparation)**; USES (Uses)
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 10025-83-9, Iridium trichloride 19493-44-8, 1-Chloroisoquinoline
RL: RCT (Reactant); RACT (Reactant or reagent)
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 435294-70-5P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(hydrolysis; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 123324-71-0, 4-tert-Butylphenylboronic acid 144025-03-6, 2,4-Difluorophenylboronic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with chloroisoquinoline; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 525598-48-5P 660393-97-5P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(reaction with iridium trichloride; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

L85 ANSWER 2 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:182587 CAPLUS
DN 140:236722
ED Entered STN: 05 Mar 2004
TI Layer configuration comprising an electron-blocking element
IN Andriessen, Hieronymus
PA Agfa-Gevaert, Belg.
SO U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07D211-02
NCL 546185000
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 52, 73, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

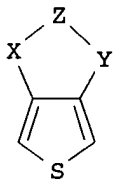
PI	US 2004044214	A1	20040304	US 2003-638918	20030811
	WO 2004019346	A1	20040304	WO 2003-EP50341	20030729

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI	EP 2002-102216	A	20020823
	US 2002-409731P	P	20020911
	EP 2003-100327	A	20030213

GI



I

AB Layered structures comprising a nonphotoactive element formed from compds. other than poly(3,4-alkylenedioxythiophene)s and poly(3,4-dialkoxythiophene)s are described in which the structures include a first polymer containing structural units are described by the general formula I (X and Y = independently selected O, S, N-R1; Z = -(CH2)m CR2R3-(CH2)n-; R1 = aryl, C1-18 alkyl, or H; R2 = H or -(CH2)s-O-(CH2)p -SO3-M+ ; R3 = -(CH2)s-O-(CH2)p-SO3-M+; M+ = a cation; m = 0-3; n = 0-3; s = 0-10; and p = 1-18) and a second polymer different from the first polymer and selected from the group consisting of optionally quaternized polyamine-polymers, polysulfo-polymers, polyphosphoric acids and polyphosphoric acid salts, the surface of one side of the element being contiguous with a pos. electrode and the surface on the opposite side of the element being contiguous with a hole-transporting material. The layers are capable of reducing hole-electron recombination at the pos. electrode thereby increasing the efficiency and lifetime of **electronic** devices containing such layered structures. **Electroluminescent** devices, especially light-emitting diodes, transistors, and photovoltaic devices (e.g., solar cells) including the structures are also described.

ST polythiophene deriv layer hole electron recombination control **electronic** device; solar cell polythiophene deriv layer hole electron recombination control; **electroluminescent** device polythiophene deriv layer hole electron recombination control; transistor polythiophene deriv layer hole electron recombination control; photovoltaic device polythiophene deriv layer hole electron recombination control

IT **Electroluminescent** devices

Photoelectric devices
Solar cells
Transistors
(layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

IT Conducting polymers
(polythiophenes; layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

IT 667420-85-1P
RL: BYP (Byproduct); **PREP (Preparation)**
(layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

IT 30619-16-0, Acrylamide-4-vinylpyridine copolymer 50851-57-5, Poly(styrenesulphonic acid) 667455-83-6, Acrylamide-N-vinylimidazole-4-vinylpyridine copolymer
RL: **DEV (Device component use)**; POF (Polymer in formulation); USES (Uses)
(layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

IT **204444-03-1P**
RL: **DEV (Device component use)**; POF (Polymer in formulation); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

IT 3132-64-7, Epibromohydrin 58416-04-9
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

IT 1633-83-6P, Butanesultone 7646-69-7P, Sodium hydride (NaH) 146796-02-3P 146796-14-7P 204444-01-9P 540803-64-3P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(layered structures with polythiophene derivative-containing layers for hole-electron recombination control and **electronic** devices using them)

L85 ANSWER 3 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:182502 CAPLUS
DN 140:236721
ED Entered STN: 05 Mar 2004
TI Layer configuration with improved stability to sunlight exposure
IN Louwet, Frank; Dyck, Geert Van; Loccufier, Johan; Groenendaal, Bert; Andriessen, Hieronymus
PA Agfa-Gevaert, Belg.
SO U.S. Pat. Appl. Publ., 24 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM B01J031-00

NCL 502159000
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 52, 73, 76
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004043895	A1	20040304	US 2003-642933	20030818
PRAI	EP 2002-102217	A	20020823		
	US 2002-409794P	P	20020911		

OS MARPAT 140:236721
AB Layered structures comprising a layer containing a polymer containing optionally substituted 3,4-alkylenedioxythiophene structural units, in which the alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, and a compound selected from the group consisting of polyphosphoric acids, polyphosphoric acid salts, thia-alkanedicarboxylic acids, cyclohexadiene compds. and polyhydroxy-compds. selected from the group consisting of tetronic acid derivs., ortho-dihydroxybenzene compds. with ≥1 sulfo group, compds. described by the general formula HO-CH2-CH(OH)-(CH2)m-S-CH2-C(R1)(R2)-CH2-S-(CH2)n-CH(OH)-CH2-OH (I: R1 and R2 = independently selected H, -OH, or alkyl; n = 1, 2, or 3; and m = 1, 2 or 3); compds. described by the general formula HO-(CH2)p-S-CH2-S-(CH2)q-OH (p = 2,3, or 4; q = 2, 3 or 4), compds. hydrolyzable to tetronic acid derivs., compds. hydrolyzable to compds. described by the general formula I; and sulfo-substituted 2-thia-alkyl-benzimidazole compds. The layers are capable of reducing hole-electron recombination at the pos. electrode thereby increasing the efficiency and lifetime of **electronic** devices containing such layered structures. **Electroluminescent** devices, especially light-emitting diodes, transistors, and photovoltaic devices (e.g., solar cells) including the structures are also described.
ST polythiophene deriv layer light resistance **electronic** device; solar cell polythiophene deriv layer light resistance; **electroluminescent** device polythiophene deriv layer light resistance; transistor polythiophene deriv layer light resistance; photovoltaic device polythiophene deriv layer light resistance
IT Carboxylic acids, uses
RL: **DEV (Device component use)**; USES (Uses)
(dicarboxylic, thiaalkane; layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT **Electroluminescent** devices
Photoelectric devices
Solar cells
Transistors
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT Polyphosphates
RL: **DEV (Device component use)**; USES (Uses)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT Polyphosphoric acids
RL: **DEV (Device component use)**; MOA (Modifier or additive use); USES (Uses)
(layered structures with improved stability to sunlight exposure and

electronic devices using them)
IT Conducting polymers
(polythiophenes; layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT 667420-85-1P
RL: BYP (Byproduct); **PREP (Preparation)**
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT 51-17-2D, Benzimidazole, thiaalkyl derivs. 4971-56-6D, Tetronic acid, derivs. 29797-09-9D, Cyclohexadiene, derivs.
RL: **DEV (Device component use)**; USES (Uses)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT 50851-57-5, Poly(styrene sulphonate)
RL: **DEV (Device component use)**; MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT 30619-16-0, Acrylamide-4-vinylpyridine copolymer 126213-51-2, Poly(3,4-ethylenedioxythiophene) 126213-51-2D, Poly(3,4-ethylenedioxythiophene), derivs. 126213-52-3, Poly(3,4-methylenedioxythiophene) 126213-52-3D, Poly(3,4-methylenedioxythiophene), derivs. 150504-14-6, Poly(3,4-propylenedioxythiophene) 150504-14-6D, Poly(3,4-propylenedioxythiophene), derivs. 202927-42-2, Poly(3,4-butylenedioxythiophene) 202927-42-2D, Poly(3,4-butylenedioxythiophene), derivs.
RL: **DEV (Device component use)**; POF (Polymer in formulation); USES (Uses)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT **204444-03-1P**
RL: **DEV (Device component use)**; POF (Polymer in formulation); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT 3132-64-7, Epibromohydrin 58416-04-9
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)
IT 1633-83-6P, Butanesultone 7646-69-7P, Sodium hydride (NaH) 146796-02-3P 146796-14-7P 204444-01-9P 540803-64-3P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(layered structures with improved stability to sunlight exposure and **electronic** devices using them)

L85 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:177928 CAPLUS
DN 140:235899
ED Entered STN: 04 Mar 2004
TI Rhodium and iridium complexes
IN Stoessel, Philipp; Bach, Ingrid; Spreitzer, Hubert
PA Covion Organic Semiconductors G.m.b.H., Germany
SO Ger. Offen., 19 pp.

CODEN: GWXXBX
DT Patent
LA German
IC ICM C07F015-00
CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 52, 73, 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10238903	A1	20040304	DE 2002-10238903	20020824
	WO 2004026886	A2	20040401	WO 2003-EP9015	20030814

W: CN, JP, KR, US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR
PRAI DE 2002-10238903 A 20020824

AB 5'-Mono-, 5',5''-bis-, and 5,5',5'''-tris-(hetero)aryl-functionalized tris-orthometallated organorhodium and organoiridium compds. are claimed along with a method for their production entailing reaction of an appropriate halogen-functionalized complex with an (hetero)aryl boronic acid or (hetero)aryl boronic acid ester. Mixts. of the **organometallic** compds. with **polymers** are also described. The compds. are described as **phosphorescent** emitters. **Electronic devices**, such as **electroluminescent devices** (where they may be part of the emitting layer), organic integrated circuits, organic field-effect transistors, organic thin-film transistors, solar cells, photovoltaic devices (e.g., organic solar cells and organic photodetectors) and organic solid-state lasers, employing the complexes and mixts. are also described. Thus, fac-tris[2-(2-pyridinyl-κN)(5-bromophenyl)-κC]iridium(III) was reacted with phenylboronic acid to produce fac-tris[2-(2-pyridinyl-κN)[5-(phenyl)phenyl]-κC]iridium(III).

ST iridium hetero aryl functionalized ligand complex prepn **electronic device**; rhodium hetero aryl functionalized ligand complex prepn **electronic device**

IT **Luminescent** substances
(**electroluminescent**; rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT **Electroluminescent** devices
Field effect transistors
Integrated circuits
Semiconductor lasers
Solar cells
Thin film transistors
(organic; rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT Conducting **polymers**
(polythiophenes, mixts. with **metal complexes**; rhodium **complexes** and iridium **complexes** including (hetero)aryl-functionalized ligands and their preparation and use)

IT Optical detectors
Phosphorescent substances
Photoelectric devices
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT 25067-59-8, Polyvinylcarbazole 25190-62-9, Poly(1,4-phenylene) 51555-21-6, Polycarbazole 95270-88-5, Polyfluorene 192005-02-0,

9,9'-Spirobi[9H-fluorene] homopolymer
RL: **DEV (Device component use)**; USES (Uses)
(mixts. with **metal complexes**; rhodium **complexes** and iridium **complexes** including (hetero)aryl-functionalized ligands and their preparation and use)

IT 7440-16-6D, Rhodium, compds. with (hetero)aryl-functionalized ligands
RL: **DEV (Device component use)**; USES (Uses)
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT 667935-05-9P 667935-06-0P 667935-07-1P 667935-08-2P 667935-09-3P 667935-10-6P 667935-20-8P
RL: **DEV (Device component use)**; **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT 98-80-6, Benzeneboronic acid 1993-03-9, 2-Fluorobenzeneboronic acid 16419-60-6, 2-Methylbenzeneboronic acid 85199-06-0 144025-03-6, 2,4-Difluorobenzeneboronic acid 156545-07-2, 3,5-Difluorobenzeneboronic acid 168267-41-2, 3,4-Difluorobenzeneboronic acid 454454-92-3, fac-Tris[2-(2-pyridinyl-κN)(5-bromophenyl)-κC]iridium(III) 667933-70-2 667935-11-7
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

L85 ANSWER 5 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 2003:609916 CAPLUS
DN 139:171082
ED Entered STN: 08 Aug 2003
TI **Polymers** having attached **luminescent metal complexes** and devices made with such **polymers**
IN Fryd, Michael; Grushin, Vladimir; Herron, Norman; Periyasamy, Mookkan; Petrov, Viacheslav A.; Radu, Nora Sabina
PA USA
SO U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM H05B033-14
ICS C09K011-06
NCL 428690000; 428917000; 313504000; 257040000; 257103000; 252301350; 252301160
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003148142	A1	20030807	US 2001-974113	20011009

PRAI US 2001-974113 20011009

AB Organic **electronic devices** are described which comprise an emitting layer which comprises ≥1 functionalized **polymer** having a plurality of first-type functional groups, at least a portion of the functional groups being coordinated to ≥1 **metal** or **metal**-containing **complex**, or in which the groups have a

charge and are associated with ≥1 **metal complex** having an opposite charge. The emitting layers may also include organic charge transport materials. Selected **polymer-metal complexes** and salts are also described.

ST **metal complex polymer** salt **electroluminescent** device; **metal polymer complex electroluminescent** device

IT Group VIII element compounds
RL: DEV (Device component use); USES (Uses)
(Group 10; **metal-polymer complexes** and salts and devices employing them)

IT Polyanilines
RL: DEV (Device component use); USES (Uses)
(charge transport material; **metal-polymer complexes** and salts and devices employing them)

IT Group VIII element compounds
RL: DEV (Device component use); USES (Uses)
(cobalt-group; **metal-polymer complexes** and salts and devices employing them)

IT **Luminescent** substances
(**electroluminescent**; **metal-polymer complexes** and salts and devices employing them)

IT Group VIII element compounds
RL: DEV (Device component use); USES (Uses)
(iron-group; **metal-polymer complexes** and salts and devices employing them)

IT **Electroluminescent** devices
(**metal-polymer complexes** and salts and devices employing them)

IT Group IB element compounds
Group IIB element compounds
Group IIIA element compounds
Group VIIB element compounds
Rare earth **complexes**
RL: DEV (Device component use); USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)

IT 25067-59-8, Polyvinylcarbazole 58328-31-7 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-(1,1'-biphenyl)-4,4'-diamine 70895-80-6, Bis[4-(N,N-diethylamino)-2-methylphenyl](4-methylphenyl)methane
RL: DEV (Device component use); USES (Uses)
(charge transport material; **metal-polymer complexes** and salts and devices employing them)

IT 7439-88-5D, Iridium, compds., reaction products with **polymers**
7440-04-2D, Osmium, compds., reaction products with **polymers**
7440-05-3D, Palladium, compds., reaction products with **polymers**
7440-06-4D, Platinum, compds., reaction products with **polymers**
7440-16-6D, Rhodium, compds., reaction products with **polymers**
7440-18-8D, Ruthenium, compds., reaction products with **polymers**
7440-27-9D, Terbium, compds., reaction products with **polymers**
7440-30-4D, Thulium, compds., reaction products with **polymers**
7440-57-5D, Gold, compds., reaction products with **polymers**
7440-66-6D, Zinc, compds., reaction products with **polymers**
40231-87-6D, reaction products with **polymers** 176763-58-9D,

reaction products with **polymers** 412040-84-7D, reaction products with **polymers**
RL: DEV (Device component use); USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)

IT 14054-87-6DP, reaction products with **polymers** 14592-81-5DP, reaction products with **polymers** 26284-14-0DP, reaction products with **metal** compds. 26355-01-1DP, 2-Hydroxyethyl methacrylate-methyl methacrylate copolymer, reaction products with **metal** compds. 56315-94-7DP, 2-Hydroxyethyl methacrylate-isobutyl methacrylate copolymer, reaction products with **metal** compds. 66028-15-7DP, 2-(Dimethylamino)ethyl methacrylate-Isobutylmethacrylate copolymer, reaction products with **metal** compds. 72460-28-7DP, 4,4'-Bis(chlorocarbonyl)-2,2'-bipyridine, reaction products with **polymers** and **metal** compds. 190370-38-8DP, reaction products with **polymers** 387859-66-7DP, reaction products with **polymers** 412032-55-4DP, reaction products with electron-transporting compds. and **metal** compds. 412032-56-5DP, reaction products with **polymers** and **metal** compds. 412032-57-6DP, reaction products with electron-transporting compds. and **metal** compds. 412032-58-7DP, reaction products with **metal** compds. 412032-59-8DP, reaction products with **metal** compds. 412032-60-1DP, reaction products with **metal** compds.
RL: DEV (Device component use); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)

IT 95-54-5, 1,2-Diaminobenzene, reactions 97-93-8, Triethylaluminum, reactions 694-83-7, 1,2-Diaminocyclohexane 1765-93-1, 4-Fluorophenylboronic acid 2695-37-6, 4-Styrenesulfonic acid sodium salt 3796-23-4 10025-83-9, Iridium trichloride 32503-27-8, Tetrabutylammonium hydrogen sulfate 37942-07-7, 3,5-Di-tert-butyl-2-hydroxybenzaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(**metal-polymer complexes** and salts and devices employing them)

IT 37295-36-6P 66028-15-7P, 2-(Dimethylamino)ethyl methacrylate-Isobutylmethacrylate copolymer 103595-82-0P 190370-38-8P 370878-58-3P 387859-66-7P
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**metal-polymer complexes** and salts and devices employing them)

L85 ANSWER 6 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:757368 CAPLUS
DN 139:261652
ED Entered STN: 26 Sep 2003
TI **Polymerized** cycloolefins using transition metal catalyst and end product optical articles for **electronic devices**

IN Rhodes, Larry Funderburk; Bell, Andrew; Ravikiran, R.; Fondran, John C.; Jayaraman, Saikumar; Goodall, Brian Leslie; Mimna, Richard A.; Lipian, John-Henry
PA USA
SO U.S. Pat. Appl. Publ., 90 pp., Cont.-in-part of U.S. Ser. No. 196,525.
CODEN: USXXCO
DT Patent
LA English
IC ICM C08F004-44
NCL 526134000; 526308000; 526171000; 526172000
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67, 76
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003181607	A1	20030925	US 2002-271393	20021015
	US 2002052454	A1	20020502	US 1999-412935	19991005
	US 6455650	B2	20020924		
	US 2003023013	A1	20030130	US 2002-196525	20020716
	US 2004048994	A1	20040311	US 2003-464978	20030618
PRAI	US 1998-103120P	P	19981005		
	US 1999-412935	A3	19991005		
	US 2002-196525	A2	20020716		
	US 1998-111590P	P	19981209		
	US 2002-271393	A1	20021015		

OS MARPAT 139:261652
AB The addition **polymerization** of cycloolefins uses a cationic Group 10 **metal complex** and a weakly coordinating anion (WCA), [(R')zM(L')x(L'')y]b[WCA]d, where [(R')zM(L')x(L'')y] is a cation complex where M is a Group 10 transition metal; R' is anionic hydrocarbyl containing ligand; L' is Group 15 neutral electron donor ligand; L'' is a labile neutral electron donor ligand; x = 1 or 2; y = 0, 1, 2, or 3; z = 0 or 1, where the sum of x, y, and z = 4; [WCA] is counter anion complex; and b and d are nos. representing the number of times the cation complex and weakly coordinating counter anion complex are taken to balance the electronic charge on the overall catalyst complex.
ST optical semiconductor device cycloolefin **polymer**; transition **metal complex** catalyst cycloolefin **polymn**; allylpalladium cyclohexylphosphine fluorophenylborate catalyst butylnorbornene ethoxysilylnorbornene **polymn**

IT Polysiloxanes, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(block polycycloalkene-; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT Amines, uses
RL: CAT (Catalyst use); USES (Uses)
(**complexes**; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT **Electroluminescent devices**
Electronic packaging materials
Optoelectronic semiconductor **devices**
(cycloolefin **polymers** for packaging of **electronic devices**)

IT Polysiloxanes, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(di-Me, Me vinyl, vinyl group-terminated, Gelest VMM 010, reaction products with hexylnorbornene and triethoxysilylnorbornene; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT Polysiloxanes, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(di-Me, di-Ph, vinyl group-terminated, Gelest PDV 1625, reaction products with hexylnorbornene and triethoxysilylnorbornene; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT Cycloalkenes
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(**polymers**; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT **Polymerization** catalysts
(transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT Platinum-group **metal complexes**
RL: CAT (Catalyst use); USES (Uses)
(transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT Fluoropolymers, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 116-17-6, Triisopropyl phosphite 432-04-2, Tris(trifluoromethyl)phosphine 554-70-1, Triethylphosphine 585-48-8, 2,6-Di-tert-butylpyridine 594-09-2, Trimethylphosphine 603-34-9, Triphenylamine 603-35-0, Triphenylphosphine, uses 603-36-1, Triphenylstibine 607-01-2, Ethyldiphenylphosphine 672-66-2, Dimethylphenylphosphine 819-19-2, Di-tert-butylphosphine 829-84-5, Dicyclohexylphosphine 855-38-9, Tris(p-methoxyphenyl)phosphine 998-40-3, Tributylphosphine 1017-60-3, Bis[4-methylphenyl)phosphine 1038-95-5, Tri-p-tolylphosphine 1101-41-3, Tetraphenylbiphosphine 1159-54-2, Tris(4-chlorophenyl)phosphine 1259-35-4, Tris(pentafluorophenyl)phosphine 1485-88-7, (2-Methoxyphenyl)methylphenylphosphine 1605-53-4, Diethylphenylphosphine 1663-45-2, 1,2-Bis(diphenylphosphino)ethane 1732-72-5, Dibutylphosphine 1795-31-9, Tris(trimethylsilyl) phosphite 2155-96-6, Diphenylvinylphosphine 2234-97-1, Tripropylphosphine 2622-14-2, Tricyclohexylphosphine 2741-38-0, Allyldiphenylphosphine 2752-19-4, Tri-o-xenyl phosphite 4006-38-6, Diisobutylphosphine 4125-25-1, Triisobutylphosphine 4731-53-7, Tri-n-octylphosphine 4731-65-1, Tris(2-methoxyphenyl)phosphine 5074-71-5, Bis(pentafluorophenyl)phenylphosphine 5518-52-5, Tris(2-furylphosphine 5525-95-1, Diphenyl(pentafluorophenyl)phosphine 6002-34-2, tert-Butyldiphenylphosphine 6163-58-2, Tri-o-tolylphosphine 6224-63-1, Tri-m-tolylphosphine 6372-40-3, Diphenylisopropylphosphine 6372-42-5, Cyclohexyldiphenylphosphine 6372-44-7, Dibutylphenylphosphine 6476-36-4, Triisopropylphosphine 6476-37-5, Dicyclohexylphenylphosphine

7650-88-6, Tricyclopentylphosphine 7650-89-7, Tribenzylphosphine 7650-91-1, Benzyldiphenylphosphine 13406-29-6, Tris(p-trifluoromethylphenyl)phosphine 13716-12-6, Tri-tert-butylphosphine 14180-51-9, Bis(4-methoxyphenyl)phenylphosphine 15383-58-1, 1,2-Bis(diphenylphosphino)propane 15573-38-3, Tris(trimethylsilyl)phosphine 16523-89-0, Triallylphosphine 17261-28-8, 2-(Diphenylphosphino)benzoic acid 17586-49-1, Tri-sec-butylphosphine 18437-78-0, Tris(p-fluorophenyl)phosphine 23743-26-2, 1,2-Bis(dicyclohexylphosphino)ethane 23897-15-6, Tris(2,4,6-trimethylphenyl)phosphine 24171-89-9, Tris(2-thienyl)phosphine 24850-33-7, Allyltributyltin 26464-99-3, Dimethyl(trimethylsilyl)phosphine 26681-88-9, Divinylphenylphosphine 28609-58-7, Tris(phenylthio)stibine 28653-22-7, Trinaphthylphosphine 29949-75-5, Diallylphenylphosphine 29949-84-6, Tris(m-methoxyphenyl)phosphine 29949-85-7, Tris(3-chlorophenyl)phosphine 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite 42491-33-8, tert-Butylbis(trimethylsilyl)phosphine 43077-29-8, Diphenyl-(+)-neomenthylphosphine 53111-20-9, Diphenyl(2-methoxyphenyl)phosphine 56522-04-4, Dibenzylphosphine 63995-70-0 76189-55-4 83622-85-9, Tris(3-methoxypropyl)phosphine 85417-41-0, Tris(2,6-dimethoxyphenyl)phosphine 166172-69-6, Bis[3,5-bis(trifluoromethyl)phenyl]phosphine 175136-62-6, Tris[3,5-bis(trifluoromethyl)phenyl]phosphine 193404-80-7 216020-59-6, Bis(2-furyl)phosphine 263878-91-7
RL: CAT (Catalyst use); USES (Uses)
(catalyst ligand; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 75-16-1, Methylmagnesium bromide 124-41-4, Sodium methoxide 127-91-3, β-Pinene 139362-04-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst precursor; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 100-42-5D, Styrene, crosslinked **polymer**
RL: CAT (Catalyst use); USES (Uses)
(catalyst support; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 2102-16-1, Hexadeuterocyclopentadiene 25291-17-2, 1H,1H,2H-Perfluoro-1-octene
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer precursor; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 263879-07-8P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 97-93-8, Triethylaluminum, uses 1295-35-8, Bis(cyclooctadiene)nickel 3375-31-3 12012-95-2, Allylpalladium chloride dimer 12107-56-1 12145-60-7, (Methallyl)nickel choride dimer 13965-03-2 14024-61-4, Palladium acetylacetonate 15242-92-9 18987-59-2 28425-04-9

29934-17-6, Bis(tricyclohexylphosphine)palladium dichloride 31989-57-8, Bis(triphenylphosphine)palladium 32216-28-7, Allylplatinum chloride tetramer 33309-88-5 34424-15-2 40691-33-6 42196-31-6, Palladium trifluoroacetate 63936-77-6 63936-85-6, (1,5-Cyclooctadiene)methylpalladium chloride 125475-73-2 135348-57-1, Ferrocenium tetrakis(pentafluorophenyl)borate 141219-72-9, Palladium ethylhexanoate 172418-32-5 263878-78-0 263879-42-1 263879-43-2 263879-44-3
RL: CAT (Catalyst use); USES (Uses)
(transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 12013-04-6P, (Allyl)palladium iodide dimer 28016-71-9P 32699-43-7P 34829-33-9P 58676-44-1P 71035-50-2P 79270-04-5P 119875-93-3P 125893-61-0P 179803-34-0P 263878-70-2P 263878-71-3P 263878-72-4P 263878-73-5P 263878-74-6P 263878-75-7P 263878-76-8P 263878-77-9P 263878-79-1P 263878-80-4P 263905-49-3P 263905-50-6P
RL: CAT (Catalyst use); **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 25038-76-0P, Polynorbornene 25038-78-2P, Polydicyclopentadiene 26935-77-3P, Poly(5-butyl-2-norbornene) 26935-79-5P, Poly(5-hexylnorbornene) 26935-85-3P 29036-48-4P, Poly-5-ethyl-2-norbornene 118777-99-4P 146066-32-2P, Poly(5-triethoxysilyl-2-norbornene) 146066-36-6P 252338-36-6P 252338-37-7P, Butylnorbornene-5-triethoxysilylnorbornene copolymer 252338-38-8P 263878-83-7P 263878-84-8P 263878-85-9P 263878-86-0P 263878-87-1P 263878-88-2P 263878-89-3P 263878-90-6P 263878-92-8P 263878-94-0P 263878-96-2P 263878-97-3P 263878-98-4P 263878-99-5P 263879-00-1P 263879-01-2P 263879-02-3P 263879-03-4P 263879-04-5P 263879-05-6P 263879-06-7P 263879-08-9P 263879-09-0P 263879-10-3P 263879-11-4P 263879-12-5P 263880-86-0P 263905-51-7P 263905-52-8P 264133-20-2P
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(transition **metal complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 199450-09-4 220836-13-5 220836-14-6 220836-19-1 220836-26-0 220836-29-3 220836-34-0 263880-01-9 263880-02-0 263880-03-1 263880-04-2 263880-05-3 263880-07-5 263880-09-7 263880-10-0 263880-12-2 263880-13-3 263880-14-4 263880-15-5 263880-16-6 263880-18-8 263880-19-9 263880-22-4 263880-24-6 263880-25-7 263880-28-0 263880-30-4 263880-34-8 263880-36-0 263880-38-2 263880-40-6 263880-42-8 263880-43-9 263880-45-1 263880-46-2 263880-47-3 263880-48-4 263880-49-5 263880-50-8 263880-52-0 263880-53-1 263880-54-2 263880-55-3 263880-56-4 263880-57-5 263880-58-6 263880-60-0 263880-61-1 263880-62-2 263880-63-3 263880-65-5 263880-66-6 263880-67-7 263880-68-8 263880-70-2 263880-71-3 263880-72-4 263880-73-5 263880-75-7 263880-76-8 263880-77-9 263880-78-0 263880-80-4 263880-81-5 263880-82-6 263880-83-7 263880-85-9 263880-87-1 263905-53-9 263905-54-0 263905-55-1 263905-57-3
RL: CAT (Catalyst use); USES (Uses)
(weakly coordinating counterion component; transition **metal**

complexes having weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

IT 143-66-8, Sodium tetraphenylborate 1109-15-5, Tris(pentafluorophenyl)boron 2797-28-6, Lithium tetrakis(pentafluorophenyl)borate 14104-20-2, Silver tetrafluoroborate 25776-12-9, Sodium tetrakis(4-fluorophenyl)borate 26603-18-9, Sodium tetrakis(3-fluorophenyl)borate 55471-58-4 68140-33-0, Lithium tetrakis(4-fluorophenyl)borate 70083-57-7 79060-88-1, Sodium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate 89171-23-3, Potassium tetrakis(pentafluorophenyl)borate 105560-52-9, Potassium tetrakis[bis(3,5-trifluoromethyl)phenyl]borate 118612-00-3, N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate 119861-51-7, Sodium tetrakis(3,5-difluorophenyl)borate 120945-63-3 121919-80-0 136040-19-2, Trityl tetrakis(pentafluorophenyl)borate 142617-68-3 143319-79-3 143607-32-3 144674-03-3 148354-26-1 148354-27-2, Triethylsilylium tetrakis(pentafluorophenyl)borate 149213-65-0, Sodium tetrakis(pentafluorophenyl)borate 153347-65-0, Lithium tetrakis(3,5-bis(trifluoromethyl)phenyl)borate 156713-63-2 157475-37-1 160298-75-9, Silver tetrakis(4-fluorophenyl)borate 160298-76-0 167172-26-1 167172-28-3 172883-38-4 177716-84-6 177716-86-8 177716-87-9 177716-91-5 177716-92-6 177716-94-8 177716-99-3 177717-01-0 177717-03-2 177717-05-4 177717-08-7 177717-10-1 177717-12-3 188019-19-4, Thallium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate 188707-89-3 191101-32-3 220836-20-4 220836-25-9 225797-12-6 263878-81-5 263878-82-6 263879-13-6, Lithium tetrakis(2-fluorophenyl)borate 263879-14-7, Sodium tetrakis(2-fluorophenyl)borate 263879-15-8, Silver tetrakis(2-fluorophenyl)borate 263879-16-9, Thallium tetrakis(2-fluorophenyl)borate 263879-17-0, Lithium tetrakis(3-fluorophenyl)borate 263879-18-1, Silver tetrakis(3-fluorophenyl)borate 263879-19-2, Thallium tetrakis(3-fluorophenyl)borate 263879-21-6, Ferrocenium tetrakis(3-fluorophenyl)borate 263879-24-9, Thallium tetrakis(4-fluorophenyl)borate 263879-27-2, Lithium tetrakis(3,5-difluorophenyl)borate 263879-31-8 263879-32-9 263879-33-0 263879-34-1 263879-35-2 263879-36-3 263879-37-4 263879-39-6 263879-40-9 263879-41-0 263879-45-4 263879-46-5 263879-47-6 263879-48-7 263879-49-8 263879-50-1 263879-51-2 263879-52-3 263879-53-4 263879-54-5 263879-55-6 263879-56-7 263879-57-8 263879-58-9 263879-59-0 263879-60-3 263879-61-4 263879-62-5 263879-63-6 263879-64-7 263879-65-8 263879-66-9 263879-67-0 263879-68-1 263879-69-2 263879-70-5 263879-71-6 263879-72-7 263879-73-8 263879-74-9 263879-75-0 263879-76-1 263879-78-3 263879-79-4 263879-80-7 263879-81-8 263879-82-9 263879-84-1 263879-85-2 263879-86-3 263879-87-4 263879-88-5 263879-89-6 263879-90-9 263879-91-0 263879-92-1 263879-93-2 263879-94-3 263879-95-4 263879-96-5 263879-97-6 263879-98-7 263879-99-8 263880-00-8

RL: CAT (Catalyst use); USES (Uses)
(weakly coordinating counterion component; transition **metal** **complexes** stabilized by weakly coordinating counterions for catalysts for **polymerization** of cycloolefins)

L85 ANSWER 7 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:376424 CAPLUS
DN 138:369398

ED Entered STN: 16 May 2003
TI Process for preparing aromatic **polymers**
IN Uckert, Frank P.
PA USA
SO U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C08F004-44
NCL 526124600; 526124900; 526131000
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003092857	A1	20030515	US 2002-289946	20021107
WO 2003042276	A2	20030522	WO 2002-US35782	20021107
WO 2003042276	A3	20040304		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-348830P P 20011113
US 2002-365389P P 20020318

AB Conjugated aromatic **polymers**, useful for manufacture of **electronic devices**, are prepared by **polymerization** of a mixture containing XAr1X (X = Br, I, Cl, p-toluenesulfonate, methanesulfonate, or trifluoromethanesulfonate, Ar1 = aromatic group) and YAr2Y (Y = boronic acid, boronic ester, or borane, Ar2 = aromatic group the same or different than Ar2) or a mixture of aromatic monomers having both of the above-described groups in the presence of catalysts based on a phosphine oxide-transition **metal complex** having 2 **metal** atoms bonded to ≥1 phosphine oxide ligand, wherein each metal is bonded to the ligands via metal-P bonds and wherein the metal atoms are bridged via 2 halogen atoms. A typical **polymer** was manufactured by **polymn**. of 1.07 g 2,7-diiodo-9,9-bis(2-ethylhexyl)fluorene 48 h at 100° with 0.5 g 1,4-benzenediboronic acid bis(neopentyl glycol) cyclic ester in DMF in the presence K2CO3 and [bis(di-tert-butylphosphinous acid)]palladium (I) chloride dimer.

ST conjugated arom **polymer** manuf phosphorus transition **metal complex** catalyst; tertiary butylphosphinous acid palladium chloride dimer catalyst **polymn**; diiodobisethylhexylfluorene benzenediboronic acid bisneopentyl glycol cyclic ester copolymer manuf

IT **Polymers**, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(conjugated, aromatic; preparing conjugated aromatic **polymers** in presence of phosphine oxide-transition **metal**

complexes)
IT **Electroluminescent** devices
Polymerization catalysts
(preparing conjugated aromatic **polymers** in presence of phosphine oxide-transition **metal complexes**)
IT 13716-10-4, Di-tert-butylchlorophosphine
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst precursor; preparing conjugated aromatic **polymers** in presence of phosphine oxide-transition **metal complexes**)
IT 386706-31-6P 386706-32-7P
RL: CAT (Catalyst use); **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(preparing conjugated aromatic **polymers** in presence of phosphine oxide-transition **metal complexes**)
IT 475114-78-4P
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(preparing conjugated aromatic **polymers** in presence of phosphine oxide-transition **metal complexes**)

L85 ANSWER 8 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2004-011765 [01] WPIX
DNN N2004-008624 DNC C2004-003436
TI **Luminescence**-capable material as component in optical device, e.g. **electroluminescent** device, comprises conjugated **polymer** or oligomer and organometallic group covalently bound to **polymer** or oligomer.
DC A26 A85 L03 U11
IN EVANS, N; HOLMES, A; KOEHLER, A; SANDEE, A; WILLIAMS, C
PA (UYCA-N) UNIV CAMBRIDGE TECH SERVICES LTD
CYC 102
PI WO 2003091355 A2 20031106 (200401)* EN 79p C09K000-00
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
ADT WO 2003091355 A2 WO 2003-GB1765 20030424
PRAI GB 2002-9652 20020426
IC ICM C09K000-00
AB WO2003091355 A UPAB: 20040102
NOVELTY - A **luminescence**-capable material comprises a **polymer** or oligomer; and an organometallic group. The **polymer** or oligomer is at least partially conjugated and the organometallic group is covalently bound to the **polymer** or oligomer. The nature, location and/or proportion of the **polymer** or oligomer and of the organometallic group in the material are selected so that the **luminescence** predominantly is **phosphorescence**.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(a) an optical device or a component comprising a substrate and a **luminescence**-capable material supported on the substrate;
(b) a monomer for use in a **polymerization** reaction having

the formula X-M((spacer)p-organometallic)-X' or X-organometallic-X';
(c) an end-capping reagent for use in a **polymerization** reaction having a formula X-M((spacer)p-organometallic) or X-organometallic;
(d) a process for preparing a **luminescence**-capable material by reacting monomers to form a **polymer** or oligomer; terminating the **polymer** or oligomer using an end-capping reagent; and treating the terminated **polymer** or oligomer with a **metal -complexing** reagent, when the end-capping reagent is capable of forming a **metal complex.**
X, X' = reactive halide, boronic acid, boronic ester, or borane;
p = at least 0;
M = aryl or heteroaryl;
L = ligand capable of forming a **complex** with a **metal** when treated with a **metal-complexing** reagent.
The organometallic in the formula X-organometallic-X' includes a carbon-metal bond. Preferably, the organometallic does not comprise ruthenium.
USE - As a component in an optical device, e.g. **electroluminescent** device (claimed).
ADVANTAGE - The invention provides a new material that is capable predominantly of **phosphorescence**, preferably electrophosphorescence. This material is superior to a **polymer** blend incorporating a **phosphorescent** dopant. The controlled structure of the material of the invention means that the location and mobility of the organometallic in the material is spatially controlled. This spatial control enables control of the interaction between the **polymer** or oligomer and the organometallic. This, in turn, enables manipulation, particularly to some extent of the energy levels of the material in its excited state when the organometallic is conjugatively linked to the **polymer** or oligomer because of synergistic effects between the **polymer** or oligomer and the organometallic. The **luminescence**-capable material of the invention gives bright **phosphorescence** in solution-processed devices. It is homogeneous and solution-processable.
Dwg.0/15

FS CPI EPI
FA AB
MC CPI: A09-A03A; A12-E11C; L03-G05F
EPI: U11-A15

L85 ANSWER 9 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2004-107351 [11] WPIX
DNN N2004-085310 DNC C2004-043845
TI Organic **electroluminescent** device has hole transport layer and light emitting layer containing host substance and **phosphorescent** dopant.
DC A18 A23 A85 E12 E13 L03 U11 U14 X26
IN CHIN, B D; KIM, M H; KWON, J H; LEE, S T; SUH, M C
PA (SMSU) SAMSUNG DENKAN KK; (SMSU) SAMSUNG SDI CO LTD
CYC 2
PI US 2003234607 A1 20031225 (200411)* 8p H01L021-00
JP 2004022544 A 20040122 (200411) 11p H05B033-14
ADT US 2003234607 A1 US 2003-404134 20030402; JP 2004022544 A JP 2003-168292

20030612
PRAI KR 2002-34692 20020620
IC ICM H01L021-00; H05B033-14
ICS C09K011-06; H01J001-62; H01L033-00
AB US2003234607 A UPAB: 20040213
NOVELTY - An organic **electroluminescent** device has electrode (100), hole transport layer (300), light emitting layer (200) and another electrode (400). The light emitting layer contains host substance and **phosphorescent** dopant.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for light emitting film mixture.
USE - Used as organic **electroluminescent** device.
ADVANTAGE - The organic **electroluminescent** device has improved color purity, light emitting characteristics and laser induced thermal imaging characteristics.
DESCRIPTION OF DRAWING(S) - The figure shows the cross-sectional view of an organic **electroluminescent** device.
electrodes 100,400
light emitting layer 200
hole transporting layer 300
Dwg.2/2
FS CPI EPI
FA AB; GI; DCN
MC CPI: A12-E11C; E05-N; E05-P; E06-D13; E07-D02; E07-E04; E08-B; E10-A19B; E10-B04A2; E10-J02B4; L03-G05F
EPI: U11-A15B; U14-J; X26-J

L85 ANSWER 10 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2004-167025 [16] WPIX
CR 2004-097210 [10]; 2004-106835 [11]; 2004-141650 [14]
DNN N2004-133119 DNC C2004-066197
TI Cleaning tableware for cleaning, sanitizing, and stain removal tableware, involves contacting tableware with aqueous cleaning liquor and bleaching liquor.
DC A97 D25 E19 P28 P43 S03
IN DRZEWIECKI, P J; PRICE, K N; SCHEPER, W M; TREMBLAY, M E; BALLAS, J E; CHIAO, I J; SHOWELL, M S; WAUGH, K L
PA (PROC) PROCTER & GAMBLE CO
CYC 102
PI US 2003213503 A1 20031120 (200416)* 34p B08B007-04
WO 2003097782 A1 20031127 (200416) EN C11D003-395
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZW
WO 2003099096 A1 20031204 (200416) EN A47L015-00
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZW
WO 2003099097 A1 20031204 (200416) EN A47L015-00

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZW

WO 2003099982 A1 20031204 (200416) EN C11D003-395
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZW

WO 2003099983 A1 20031204 (200416) EN C11D003-395
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZW

ADT US 2003213503 A1 Provisional US 2002-381146P 20020517, Provisional US 2002-381455P 20020517, Provisional US 2002-381472P 20020517, Provisional US 2002-381473P 20020517, US 2002-222643 20020816; WO 2003097782 A1 WO 2003-US15233 20030515; WO 2003099096 A1 WO 2002-US26038 20020816; WO 2003099097 A1 WO 2002-US26137 20020816; WO 2003099982 A1 WO 2002-US26182 20020816; WO 2003099983 A1 WO 2002-US26183 20020816

PRAI US 2002-222643 20020816; US 2002-381146P 20020517; US 2002-381455P 20020517; US 2002-381472P 20020517; US 2002-381473P 20020517

IC ICM A47L015-00; B08B007-04; C11D003-395
ICS A47L015-42; A47L015-44; C11D003-02; C11D003-386

AB US2003213503 A UPAB: 20040305
NOVELTY - Cleaning tableware comprises contacting tableware with aqueous cleaning liquor containing bleach unstable ingredient and aqueous bleaching liquor containing electrolysis products of electrolytes. The electrolytes are halide anions and/or halite anions.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for an article comprising a package and a replacement signal-providing detergent composition.

USE - For cleaning, sanitizing, and stain removal tableware.

ADVANTAGE - The invention eliminates the need for liquid chlorine bleach to be supplied into the final step of automatic dish washing process.

DESCRIPTION OF DRAWING(S) - The figure shows an automatic dish washing appliance with two electrochemical cells.

dish washing appliance 200
Tap water 201
Water feed pipes 202, 203, 243
Water valve 204
Electrochemical cell 205
Outlet port 207, 237
Dwg.1/4

FS CPI EPI GMPI
FA AB; GI; DCN
MC CPI: A12-W12B; D11-A; D11-B02; D11-B03; D11-B11; D11-D01A; E05-G03C; E05-G09D; E07-A02B; E10-B01C1; E10-B02; E10-C02A; E10-C04D4; E31-A05;

E31-B03; E31-C; E31-F04; E31-H05; E31-K06; E31-N05B; E31-N05C; E31-P02D; E35
EPI: S03-E14B

L85 ANSWER 11 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
AN 2002:294029 CAPLUS
DN 136:316681
ED Entered STN: 19 Apr 2002
TI **Polymers** having attached **luminescent metal complexes** and devices made with such **polymers**
IN Periyasamy, Mookkan; Grushin, Vladimir; Petrov, Viacheslav A.; Herron, Norman; Radu, Nora Sabina
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM H01L051-30
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002031896	A2	20020418	WO 2001-US31449	20011009
WO 2002031896	A3	20030904		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002015322	A5	20020422	AU 2002-15322	20011009
EP 1364419	A2	20031126	EP 2001-983933	20011009
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI US 2000-238974P	P	20001010		
WO 2001-US31449	W	20011009		

OS MARPAT 136:316681
AB Organic **electronic devices** are described which comprise an emitting layer which comprises ≥1 functionalized **polymer** having a plurality of first-type functional groups, at least a portion of the functional groups being coordinated to ≥1 **metal** or **metal**-containing **complex**, or in which the groups have a charge and are associated with ≥1 **metal complex** having an opposite charge. The emitting layers may also include organic charge transport materials. Selected **polymer-metal complexes** and salts are also described.
ST **metal complex polymer** salt **electroluminescent** device; **metal polymer complex electroluminescent** device
IT Group VIII element compounds

RL: DEV (Device component use); USES (Uses)
(Group 10; **metal-polymer complexes** and salts and devices employing them)

IT Polyanilines
RL: DEV (Device component use); USES (Uses)
(charge transport material; **metal-polymer complexes** and salts and devices employing them)

IT Group VIII element compounds
RL: DEV (Device component use); USES (Uses)
(cobalt-group; **metal-polymer complexes** and salts and devices employing them)

IT **Luminescent** substances
(**electroluminescent**; **metal-polymer complexes** and salts and devices employing them)

IT Group VIII element compounds
RL: DEV (Device component use); USES (Uses)
(iron-group; **metal-polymer complexes** and salts and devices employing them)

IT **Electroluminescent** devices
(**metal-polymer complexes** and salts and devices employing them)

IT Group IB element compounds
Group IIB element compounds
Group IIIA element compounds
Group VIIB element compounds
Rare earth **complexes**
RL: DEV (Device component use); USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)

IT 25067-59-8, Polyvinylcarbazole 58328-31-7 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-(1,1'-biphenyl)-4,4'-diamine 70895-80-6, Bis[4-(N,N-diethylamino)-2-methylphenyl](4-methylphenyl)methane
RL: DEV (Device component use); USES (Uses)
(charge transport material; **metal-polymer complexes** and salts and devices employing them)

IT 7439-88-5D, Iridium, compds., reaction products with **polymers**
7440-04-2D, Osmium, compds., reaction products with **polymers**
7440-05-3D, Palladium, compds., reaction products with **polymers**
7440-06-4D, Platinum, compds., reaction products with **polymers**
7440-16-6D, Rhodium, compds., reaction products with **polymers**
7440-18-8D, Ruthenium, compds., reaction products with **polymers**
7440-27-9D, Terbium, compds., reaction products with **polymers**
7440-30-4D, Thulium, compds., reaction products with **polymers**
7440-57-5D, Gold, compds., reaction products with **polymers**
7440-66-6D, Zinc, compds., reaction products with **polymers**
40231-87-6D, reaction products with **polymers** 176763-58-9D, reaction products with **polymers** 412040-84-7D, reaction products with **polymers**
RL: DEV (Device component use); USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)
RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)
(**metal-polymer complexes** and salts and

devices employing them)
IT 14054-87-6DP, reaction products with **polymers** 14592-81-5DP, reaction products with **polymers** 26284-14-0DP, reaction products with **metal** compds. 26355-01-1DP, 2-Hydroxyethyl methacrylate-methyl methacrylate copolymer, reaction products with **metal** compds. 56315-94-7DP, 2-Hydroxyethyl methacrylate-isobutyl methacrylate copolymer, reaction products with **metal** compds. 66028-15-7DP, 2-(Dimethylamino)ethyl methacrylate-Isobutylmethacrylate copolymer, reaction products with **metal** compds. 72460-28-7DP, 4,4'-Bis(chlorocarbonyl)-2,2'-bipyridine, reaction products with **polymers** and **metal** compds. 190370-38-8DP, reaction products with **polymers** 387859-66-7DP, reaction products with **polymers** 412032-55-4DP, reaction products with electron-transporting compds. and **metal** compds. 412032-56-5DP, reaction products with **polymers** and **metal** compds. 412032-57-6DP, reaction products with electron-transporting compds. and **metal** compds. 412032-58-7DP, reaction products with **metal** compds. 412032-59-8DP, reaction products with **metal** compds. 412032-60-1DP, reaction products with **metal** compds.
RL: DEV (Device component use); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(**metal-polymer complexes** and salts and devices employing them)
IT 95-54-5, 1,2-Diaminobenzene, reactions 97-93-8, Triethylaluminum, reactions 694-83-7, 1,2-Diaminocyclohexane 1765-93-1, 4-Fluorophenylboronic acid 2695-37-6, 4-Styrenesulfonic acid sodium salt 3796-23-4 10025-83-9, Iridium trichloride 32503-27-8, Tetrabutylammonium hydrogen sulfate 37942-07-7, 3,5-Di-tert-butyl-2-hydroxybenzaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(**metal-polymer complexes** and salts and devices employing them)
IT 37295-36-6P 66028-15-7P, 2-(Dimethylamino)ethyl methacrylate-Isobutylmethacrylate copolymer 103595-82-0P 190370-38-8P 370878-58-3P 387859-66-7P
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**metal-polymer complexes** and salts and devices employing them)

L85 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:978183 CAPLUS
DN 138:63589
ED Entered STN: 29 Dec 2002
TI Emissive multichromophoric systems
IN Therien, Michael J.
PA The Trustees of the University of Pennsylvania, USA
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM H05B
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76, 78

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002104072	A2	20021227	WO 2002-US5584	20020226
	WO 2002104072	A3	20030605		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1363916	A2	20031126	EP 2002-763188	20020226
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	US 2004067198	A1	20040408	US 2003-467107	20030805
PRAI	US 2001-271520P	P	20010226		
	US 2001-306504P	P	20010719		
	WO 2002-US5584	W	20020226		

AB Methods of producing light in the 650-2000 nm region are described which entail exciting a conjugated compound comprising ≥2 covalently bound moieties so that the light produced exceeds the total produced independently by the moieties. Preferably, the transition dipoles of the moieties are correlated in defined phase relationships. Lasers, optical amplifiers, light-sensitive elements, and **electroluminescent** devices employing the materials are also described. Polymer grid systems (e.g., electrodes, triodes) comprising a body of elec. conducting organic polymer having an open and porous network morphol. and an active **electronic** material located within at least a portion of the void spaces defined by the porous network are described in which the active **electronic** material comprises the conjugated compds.

ST laser emissive multichromophoric system; optical amplifier emissive multichromophoric system; emissive multichromophoric system; **electroluminescent** device emissive multichromophoric system; photodetector emissive multichromophoric system

IT **Luminescent** substances
(emissive multichromophoric systems)

IT Conducting polymers
(emissive multichromophoric systems and devices using them)

IT Dyes
(laser; emissive multichromophoric systems)

IT Dye lasers
Electroluminescent devices
Optical amplifiers
Optical detectors
(using emissive multichromophoric systems)

IT 156821-65-7P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(doped; emissive multichromophoric systems and devices using them)

IT **162478-94-6P 479506-72-4P 479506-76-8P**
479506-84-8P 479506-88-2P

RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(emissive multichromophoric systems and devices using them)

IT 76-05-1, Trifluoroacetic acid, reactions 98-59-9, p-Toluenesulfonyl chloride 100-52-7, Benzaldehyde, reactions 112-35-6, Triethylene glycol monomethyl ether 128-08-5, N-Bromosuccinimide 429-41-4, Tetrabutylammonium fluoride 557-34-6, Zinc acetate 624-95-3, 3,3-Dimethyl-1-butanol 1066-54-2, Trimethylsilylacetylene 2975-46-4, Trimethylsilylpropynal 3437-95-4, 2-Iodothiophene 4039-32-1, Lithium bistrimethylsilylamide 5158-46-3, Methyl zinc chloride 7486-35-3 7646-85-7, Zinc dichloride, reactions 7718-54-9, Nickel dichloride, reactions 15979-38-1 21211-65-4, 2,2'-Dipyrrylmethane 26153-38-8, 3,5-Dihydroxybenzaldehyde 39175-16-1, 2,5-Dimethoxyphenyl lithium 42930-39-2, Butyl zinc chloride 54329-76-9 68880-56-8 78389-87-4, Trimethylsilyl ethynyl zinc chloride 146985-15-1 146985-16-2 147470-64-2 156821-57-7 156821-62-4 156821-63-5 162456-73-7 162456-74-8 162479-04-1 162479-06-3 162479-07-4 162479-08-5 162479-10-9 162524-13-2 342888-11-3 **479506-92-8**
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(emissive multichromophoric systems and devices using them)

IT 7440-66-6DP, Zinc, reaction products with porphyrins 22112-89-6P, 5,15-Diphenylporphyrin 62921-74-8P 147470-60-8P 151256-86-9P, 5,15-Dibromo-10,20-diphenylporphyrin 156821-62-4DP, (5-Bromo-10,20-diphenylporphinato)zinc, reaction products with zinc 162479-00-7P 162479-02-9P 206049-38-9P 320730-84-5P 446033-33-6P 446033-37-0P 446034-12-4P 446034-13-5P 446034-15-7P 446034-16-8P 448896-67-1P 448896-68-2P 448896-70-6P 448896-71-7P 448896-72-8P 448896-73-9P 448896-74-0P 448896-75-1P 479506-65-5P 479506-69-9P 479506-80-4P 479506-96-2P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(emissive multichromophoric systems and devices using them)

IT 146985-18-4P 147470-61-9P 147470-62-0P 147470-63-1P 151462-68-9P 151462-70-3P 151462-71-4P 151530-24-4P 156821-55-5P 156821-56-6P 156821-59-9P 162479-11-0P 162524-03-0P 175597-07-6P 448896-69-3P 479506-57-5P
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(emissive multichromophoric systems and devices using them)

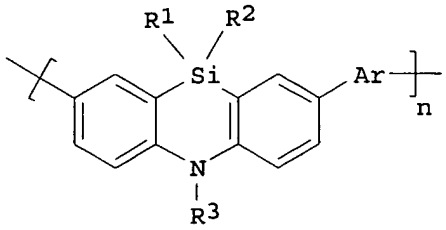
IT 156821-60-2P 333363-22-7P 333391-12-1P 448896-65-9P 448896-66-0P 448946-00-7P 479506-61-1P
RL: SPN (Synthetic preparation); **TEM (Technical or engineered material use)**; **PREP (Preparation)**; USES (Uses)
(emissive multichromophoric systems and devices using them)

L85 ANSWER 13 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:727159 CAPLUS
DN 137:255143
ED Entered STN: 25 Sep 2002
TI Phenazasiline-containing π-conjugated polymers, their manufacture, and their application
IN Hayashi, Hideki; Nakao, Hidenobu; Okita, Koichi; Hayashi, Teruyuki; Tanaka, Masato
PA Ministry of Economy, Trade and Industry; National Industrial Research Institute, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G061-12
ICS C09K009-02; C09K011-06; G02F001-15; H05B033-14; H05B033-22
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 37, 74, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002275249	A2	20020925	JP 2001-74813	20010315

PRAI JP 2001-74813 20010315
GI



I

AB The polymers are shown as I (R1, R2 = alkyl, aryl, alkoxy, aryloxy; R3 = H, alkyl, aryl, alkoxy, aryloxy; Ar = divalent aromatic; n = 3-30,000) and manufactured by reacting halogenated phenazasilines with distannyl compds. or diboryl compds. in the presence of P catalysts. **Electronic** or light-emitting devices using organic films containing the polymers and organic thin-film electrochromic or **electroluminescent** devices using the polymers are also claimed. The polymers have high heat resistance and strength, good elec. and optical properties, etc., are easily dissolved in organic solvents to give films.

ST phenazasiline polymer manuf electrochromic **electroluminescent** device

IT Electrochromic devices
Electroluminescent devices
(phenazasiline-containing π-conjugated polymers and their manufacture for electrochromic and **electroluminescent** devices)

IT **461053-41-8P** 461053-42-9P 461053-43-0P 461053-44-1P
RL: **DEV (Device component use)**; **IMF (Industrial manufacture)**; **TEM (Technical or engineered material use)**; **PREP (Preparation)**; USES (Uses)
(phenazasiline-containing π-conjugated polymers and their manufacture for electrochromic and **electroluminescent** devices)

L85 ANSWER 14 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-093180 [08] WPIX
DNN N2003-073840 DNC C2003-023425
TI **Electroluminescent** device, used in liquid crystal displays, includes an **electroluminescent** layer comprising a complex of a rare earth, transition, lanthanide or actinide metal and a non rare earth metal.

DC A85 E19 E23 L03 U14
IN KATHIRGAMANATHAN, P; RAVICHANDRAN, S; SURENDRAKUMAR, S
PA (ELAM-N) ELAM-T LTD
CYC 100
PI WO 2002087283 A1 20021031 (200308)* EN 58p H05B033-14
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
ADT WO 2002087283 A1 WO 2002-GB1844 20020422
PRAI GB 2001-9755 20010420
IC ICM H05B033-14
ICS C09K011-06
AB WO 200287283 A UPAB: 20030204
NOVELTY - **Electroluminescent** device comprises first and second electrodes and a layer of an **electroluminescent** material comprising an organic complex (I) or (II) of rare earth, transition, lanthanide or actinide metal and a non rare-earth metal.
DETAILED DESCRIPTION - **Electroluminescent** device comprises first and second electrodes and a layer of an **electroluminescent** material comprising a complex of formula (I) or (II).
(L alpha)nM1M2 (I)
(L alpha)nM1M2(Lp) (II)
M1 = rare earth, transition metal, lanthanide or actinide;
M2 = non rare earth metal;
L alpha = organic complex;
n = combined valence state of M1 and M2; and
Lp = neutral ligand.
USE - The **electroluminescent** material is used in display applications such as liquid crystal devices and devices based on inorganic semiconductor systems.
ADVANTAGE - The hole transporting layer serves to transport holes and to block the electrons, thus preventing electrons from moving into the electrode without recombining with holes. The recombination of carrier therefore mainly takes place in the emitter layer.
Dwg.0/30
FS CPI EPI
FA AB; DCN
MC CPI: A12-E07C; A12-L03B; E05-A; E05-B; E05-C02; E05-F02; E05-G02; E05-J; E05-K; E05-L; E05-M; E05-N; E05-P; E05-Q; E05-T; E24-A05; L03-G05F
EPI: U14-J; U14-K01A

L85 ANSWER 15 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-183825 [18] WPIX
DNN N2003-144814 DNC C2003-048314
TI New conjugated **polymers** especially useful as **electroluminescent** materials in **polymeric** light-emitting diodes comprise spirobifluorene-type units and fluorene-type units,.
DC A26 L03 U11 U12 U14 X26
IN BECKER, H; BUESING, A; FALCOU, A; PARHAM, A; SPREITZER, H; STOESSEL, P; TREACHER, K
PA (COVI-N) COVION ORGANIC SEMICONDUCTORS GMBH

CYC 26
PI WO 2002077060 A1 20021003 (200318)* DE 61p C08G061-00
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
W: AG CN DZ JP KR US
EP 1381639 A1 20040121 (200410) DE C08G061-00
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
KR 2003092020 A 20031203 (200424) C08G061-12
ADT WO 2002077060 A1 WO 2002-EP3221 20020322; EP 1381639 A1 EP 2002-753715 20020322, WO 2002-EP3221 20020322; KR 2003092020 A KR 2003-712452 20030924
FDT EP 1381639 A1 Based on WO 2002077060
PRAI DE 2001-10114477 20010324
IC ICM C08G061-00; C08G061-12
ICS C09K011-06; H01L051-30; H05B033-14
AB WO 200277060 A UPAB: 20030317
NOVELTY - Conjugated **polymers** comprising spirobifluorene-type units (I) and fluorene-type units (II) are new.

DETAILED DESCRIPTION - Conjugated **polymers** comprising spirobifluorene-type units of formula (I) and fluorene-type units of formula (II) in a total amount of at least 20%, with a (I):(II) ratio is 1:10 to 10:1, are new:

X = CH, CR1 or N;

Z = a bond, CR3R4, CR3R4-CR3R4, CR3=CR4, O, S, NR5, CO, C=CR3R4 or SiR3R4;

R1 = 1-22C linear, branched or cyclic alkyl or alkoxy in which one or more nonadjacent C atoms can be replaced with NR5, O, S, COO or OCOO and one or more H atoms can be replaced with F; 5-40C aryl or aryloxy in which one or more C atoms can be replaced with O, S or N and which is optionally substituted by nonaromatic R1 groups, two or more of which can form a ring; or Cl, F, CN or N(R5)2;

R2 = 1-22C linear, branched or cyclic alkyl or alkoxy in which one or more nonadjacent C atoms can be replaced with NR5, O, S, COO or OCOO and one or more H atoms can be replaced with F; 5-40C aryl or aryloxy in which one or more C atoms can be replaced with O, S or N and which is optionally substituted by nonaromatic R1 groups; or CN;

R3, R4 = H; 1-22C linear, branched or cyclic alkyl or alkoxy in which one or more nonadjacent C atoms can be replaced with NR5, O, S, COO or OCOO and one or more H atoms can be replaced with F; 5-40C aryl or aryloxy in which one or more C atoms can be replaced with O, S or N and which is optionally substituted by nonaromatic R1 groups; or CN; or R3+R4 can form a ring; R5 = H; 1-22C linear, branched or cyclic alkyl or alkoxy in which one or more nonadjacent C atoms can be replaced with O, S, COO or OCOO and one or more H atoms can be replaced with F; or 5-40C aryl or aryloxy in which one or more C atoms can be replaced with O, S or N and which is optionally substituted by nonaromatic R1 groups;

n = 0-4;

m, o = 0-3;

provided that at least of n and/or m in at least one unit of formula (I) is nonzero.

USE - (I) are useful as **electroluminescent** materials in **polymeric** light-emitting diodes (PLEDs) and other **electronic devices**, especially organic integrated circuits, organic field effect transistors, organic thin film transistors, organic solar cells and organic laser diodes (all claimed).

Dwg.0/0
FS CPI EPI

FA AB; GI
MC CPI: A09-A03A; A12-E11C; L04-E01A; L04-E03A
EPI: U11-A15B; U12-A01A1X; U14-J02D2; X26-J

L85 ANSWER 16 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2004-064594 [07] WPIX
DNN N2004-052290 DNC C2004-026574
TI Semiconductor light emitting equipment has light-transmitting metalloxane gel layer covering semiconductor light emitting device anchored to the end of the one wiring conductor.
DC A85 E12 L03 U12
PA (SANK-N) SANKEN DENKI KK
CYC 1
PI JP 2002134790 A 20020510 (200407)* 10p H01L033-00
ADT JP 2002134790 A JP 2000-323179 20001023
PRAI JP 2000-323179 20001023
IC ICM H01L033-00
ICS C09K011-80
AB JP2002134790 A UPAB: 20040128
NOVELTY - Semiconductor light emitting equipment has a pair of wiring conductors, a semiconductor light emitting device anchored to the end of the one wiring conductor, and a light-transmitting metalloxane gel layer for covering the semiconductor light emitting device.

DETAILED DESCRIPTION - Semiconductor light emitting equipment has a pair of wiring conductors, a semiconductor light emitting device anchored to the end of the one wiring conductor, and a light-transmitting metalloxane gel layer for covering the semiconductor light emitting device. The metalloxane gel layer contains a **fluorescent** material having light transmission to blue light irradiated from the semiconductor light emitting device and absorbing the blue light irradiated from the light emitting device to convert the blue light into yellow light. The metalloxane gel layer is formed of a metalloxane sol obtained by applying hydrolytic **polymerization** to a metal alkoxide, or a metalloxane sol obtained by applying hydrolytic **polymerization** to an inorganic/organic **complex** consisting of a **metal** alkoxide and an organic resin, or a metalloxane sol consisting of a ceramic precursor **polymer.** The metalloxane gel layer firmly sticks the semiconductor light emitting device to the wiring conductors. The **fluorescent** material consists of (Y1-x,Gdx)3(Al1-y,Gay)5O12:CezPrw.
x = 0- 0.5;
y = 0-0.5;
z = 0.001-0.5;
w = 0.001-0.5.

An INDEPENDENT CLAIM is included for the production of the semiconductor light emitting equipment, comprising:

(a) forming a cup portion on the end of one wiring conductor of a pair of wiring conductors;

(b) fixing the semiconductor light emitting device to the bottom of the cup portion;

(c) electrically connecting electrodes formed on the upper surface of the semiconductor light emitting device to the pair of wiring conductors by means of bonding wires;

(d) filling the **fluorescent** material and the metalloxane sol in the cup portion;

(e) covering the semiconductor light emitting device, the electrodes, and the ends of the bonding wires connected to the electrodes;

(f) drying/heating curing the metalloxane sol to form the metalloxane gel layer; and

(g) encapsulating the metalloxane gel layer by means of an encapsulating resin

The metalloxane gel layer is firmly stuck to the semiconductor light emitting device and the wiring conductors.

USE - The semiconductor light emitting equipment applies wavelength conversion to the light irradiated from the semiconductor light emitting device to outwardly release the light.

ADVANTAGE - The semiconductor light emitting device and the **fluorescent** material are surrounded by the metalloxane gel layer having stability under short wavelength light irradiation. The semiconductor light emitting equipment has enhanced resistance to environment. The semiconductor light emitting equipment has color rendering properties by using a host as garnet structure yttrium aluminum garnet and by using the Ce as an activator and the Pr as a co-activator.

DESCRIPTION OF DRAWING(S) - The drawing shows the semiconductor light-emitting-device (20).

Semiconductor light-emitting-element 2

Electrode (2a) of the cathode side of semiconductor light-emitting-element 2a

Wiring-conductor 3

Cup part 3a

Bottom-part of cup part 3b

Bonding wire 5

Dwg.1/9

FS CPI EPI

FA AB; GI; DCN

MC CPI: A06-D; A09-A02; A11-B05; A11-C02; A12-E04; A12-E07C; A12-E11A; E34-E; L04-E03

EPI: U12-A01

L85 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:412807 CAPLUS

DN 137:116037

ED Entered STN: 03 Jun 2002

TI Novel Preparation and Photoelectrochemical Properties of a Tungsten Oxide/Tris(2,2'-bipyridine)ruthenium(II) Complex Composite Film

AU Yagi, Masayuki; Umemiya, Saori

CS Faculty of Education and Human Sciences, Niigata University, Niigata, 950-2181, Japan

SO Journal of Physical Chemistry B (2002), 106(25), 6355-6357
CODEN: JPCBFK; ISSN: 1089-5647

PB American Chemical Society

DT Journal

LA English

CC 72-2 (Electrochemistry)
Section cross-reference(s): 66, 73, 74, 76

AB A 1st and unique preparation is reported of a WO3/tris(2,2'-bipyridine)ruthenium(II) (Ru(bpy)32+) composite film by electrodeposition from a colloidal solution containing peroxotungstic acid and Ru(bpy)32+ that is remarkably stabilized by poly(sodium 4-styrenesulfonate). The composite film clearly demonstrated multiple electrochromism. The photoexcited

Ru(bpy)32+ is quenched completely by WO3 in the composite film, which is responsible for an **electronic** interaction of Ru(bpy)32+ with WO3. The complete quenching led to a photocharging-discharging character and a steady-state photoanodic current induced by visible light.

ST prepn photoelectrochem property tungsten oxide ruthenium bipyridine composite film; electrodeposition tungsten oxide ruthenium bipyridine composite film; peroxotungstic acid electrodeposition tungsten oxide ruthenium bipyridine composite film; electrochromism tungsten oxide ruthenium bipyridine composite film

IT Electrodeposits
(composite; photoelectrochem. properties of WO3/Ru-bipyridine complex composite film with poly(Na styrensulfonate))

IT Electrodeposition
(of WO3/Ru-bipyridine complex composite film from colloidal solution containing peroxotungstic acid and Ru-bipyridine complex and poly(Na styrensulfonate))

IT **Luminescence**
Thickness
UV and visible spectra
(of WO3/Ru-bipyridine complex composite film with poly(Na styrensulfonate))

IT Cyclic voltammetry
(of WO3/Ru-bipyridine complex composite film with poly(Na styrensulfonate) in KNO3 solution)

IT Photocurrent
(of WO3/Ru-bipyridine complex composite film with poly(Na styrensulfonate) on ITO electrode in KNO3 solution with and without cresol)

IT 7757-79-1, Nitric acid potassium salt, uses
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(cyclic voltammetry of WO3/Ru-bipyridine complex composite film with poly(Na styrensulfonate) in KNO3 solution)

IT 44824-14-8
RL: PRP (Properties); **RCT (Reactant)**; RACT (Reactant or reagent)
(electrodeposition of WO3/Ru-bipyridine complex composite film from colloidal solution containing peroxotungstic acid and Ru-bipyridine complex)

IT 50926-11-9, Ito
RL: **DEV (Device component use)**; PRP (Properties); USES (Uses)
(electrodeposition of WO3/Ru-bipyridine complex composite film on ITO from colloidal solution containing peroxotungstic acid and Ru-bipyridine complex)

IT 106-44-5, p-Cresol, uses
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(photocurrent of WO3/Ru-bipyridine complex composite film with poly(Na styrensulfonate) on ITO electrode in KNO3 solution with and without)

IT 1314-35-8P, Tungsten oxide wo3, properties
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); **PREP (Preparation)**; PROC (Process)
(preparation by electrodeposition of colloidal solution containing peroxotungstic
acid and Ru-bipyridine and photoelectrochem. properties of WO3/Ru-bipyridine complex composite film stabilized by poly(Na styrensulfonate))

IT **62744-35-8**, Poly(sodium styrenesulfonate)

RL: NUU (Other use, unclassified); USES (Uses)
(preparation by electrodeposition of colloidal solution containing peroxotungstic
acid and Ru-bipyridine and photoelectrochem. properties of WO3/Ru-bipyridine complex composite film stabilized by poly(Na styrensulfonate))

IT 15158-62-0P, Tris(2,2'-bipyridine)ruthenium(2+)
RL: PNU (Preparation, unclassified); PRP (Properties); **PREP (Preparation)**
(preparation by electrodeposition of colloidal solution containing peroxotungstic
acid and Ru-bipyridine and photoelectrochem. properties of WO3/Ru-bipyridine complex composite film stabilized by poly(Na styrensulfonate))

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L85 ANSWER 18 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2002-097294 [13] WPIX
DNN N2002-071920 DNC C2002-030209
TI **Electroluminescent** device for use in the development of organic semiconductor employs clay nanocomposite emissive layer spin coated with organic **luminescent** material/clay nanocomposite.
DC A18 A26 A85 E19 L03 X26
IN LEE, T U; PARK, O O; LEE, T; PARK, O
PA (KOAD) KOREA ADV INST SCI & TECHNOLOGY; (LEET-I) LEE T; (PARK-I) PARK O
CYC 4

PI	WO 2001072925 A1	20011004 (200213)* EN	20p	C09K011-00	
	W: DE JP KR US				
	KR 2001095437 A	20011107 (200226)		C09K011-00	
	US 2002041151 A1	20020411 (200227)		H05B033-20	
	DE 10191387 T	20020801 (200258)		C09K011-00	
	KR 2002026860 A	20020412 (200267)		C09K011-00	
	US 6593688 B2	20030715 (200348)		H05B033-20	
	JP 2003528971 W	20030930 (200365)	18p	C09K011-06	
	US 2003211359 A1	20031113 (200382)		H05B033-14	

ADT WO 2001072925 A1 WO 2001-KR534 20010330; KR 2001095437 A KR 2000-16466 20000330; US 2002041151 A1 Cont of WO 2001-KR534 20010330, US 2001-995950 20011127; DE 10191387 T DE 2001-10191387 20010330, WO 2001-KR534 20010330; KR 2002026860 A KR 2001-705364 20010427; US 6593688 B2 Cont of WO 2001-KR534 20010330, US 2001-995950 20011127; JP 2003528971 W JP 2001-571842 20010330, WO 2001-KR534 20010330; US 2003211359 A1 Cont of WO 2001-KR534 20010330, Cont of US 2001-995950 20011127, US 2003-442861 20030520

FDT DE 10191387 T Based on WO 2001072925; JP 2003528971 W Based on WO 2001072925; US 2003211359 A1 Cont of US 6593688

PRAI KR 2000-16466 20000330

IC ICM C09K011-00; C09K011-06; H05B033-14; H05B033-20
ICS H05B033-02; H05B033-10; H05B033-22; H05B033-26; H05B033-28

AB WO 200172925 A UPAB: 20020226
NOVELTY - An **electroluminescent** device comprises a transparent substrate (1) and a semitransparent electrode (2) deposited on the substrate. A clay nanocomposite emissive layer (4) spin coated with organic **luminescent** material/clay nanocomposite is positioned on the semitransparent electrode. A metal electrode (6) is deposited on the clay nanocomposite emissive layer.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an organic **luminescent** material/clay nanocomposite in a form of quantum well, by blending an organic **luminescent** material and a nanoclay.

USE - For use in the development of organic semiconductor.

ADVANTAGE - The inventive **EL** device has improved **luminescent** efficiency and stability.

DESCRIPTION OF DRAWING(S) - The figure shows a cross-sectional view of the **EL** device.

Transparent substrate 1
Semitransparent electrode 2
Hole transporting layer 3
Clay nanocomposite emissive layer 4
Electron transporting layer 5
Metal electrode 6

Dwg.2/4

FS CPI EPI

FA AB; GI; DCN

MC CPI: A12-E11C; E05-B03; E06-H; E07-H; E08-B; E08-C01; E08-D02; E10-B01A4; E10-B04A2; E31-P02D; E31-P05B; L03-C04A; L03-D01D
EPI: X26-J

L85 ANSWER 19 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:790479 CAPLUS

DN 136:86162

ED Entered STN: 31 Oct 2001

TI The role of ruthenium and rhenium diimine complexes in conjugated polymers that exhibit interesting opto-**electronic** properties

AU Ng, Po King; Gong, Xiong; Chan, Suk Hang; Lam, Lillian Sze Man; Chan, Wai Kin

CS Department of Chemistry, University of Hong Kong, Hong Kong, Hong Kong

SO Chemistry--A European Journal (2001), 7(20), 4358-4367
CODEN: CEUJED; ISSN: 0947-6539

PB Wiley-VCH Verlag GmbH

DT Journal

LA English
CC 35-6 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73, 76
AB This paper reports the synthesis and opto-**electronic** properties of different conjugated polymers that contain the diimine complexes of ruthenium or rhenium. Conjugated poly(phenylene vinylene)s that contain aromatic 1.3.4-oxadiazole and 2.2'-bipyridine units on the main chain were synthesized by the palladium catalyzed olefinic coupling reaction. Other types of polymers based on 1.10-phenanthroline bis(2.2-bipyridyl) ruthenium(II) or chloro tricarbonyl rhenium(I) complexes were also synthesized by the same reaction. In general, these polymers exhibit two absorption bands due to the π - π^* transition of the conjugated main chain and the d - π^* **metal**-to-ligand charge-transfer transition of the **metal** complex. As a result, the photosensitivity of the polymers beyond 500 nm was enhanced. Charge-carrier mobility measurements showed that the presence of **metal** complexes could facilitate the charge-transport process, and the enhancement in carrier mobility was dependent on the **metal** content in the polymer. In addition, we have also demonstrated that the ruthenium complex could act as both photosensitizer and light emitter. Photovoltaic cells were constructed, and they were subjected to irradiation with a xenon arc lamp. Under illumination, the short circuit current and the open circuit voltage were measured to be 0.05 mA cm-2 and 0.35 V, resp. The polymers were fabricated into single-layer emitting devices, and light emission was observed when the device was subjected to forward bias. The maximum luminance was determined to be 300 cd m-2, and the external quantum efficiency was approx. 0.05 to 0.2%. Although the efficiency was relatively low when compared with other devices based on organic materials, we have demonstrated the first examples of using transition **metal** complexes for both photovoltaic and light-emitting applications.
ST polyphenylene vinylene diimine complex ruthenium rhenium prepn sensitizer **luminescence**
IT Polymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(conjugated; role of ruthenium and rhenium diimine complexes in conjugated polymers)
IT Charge transfer complexes
RL: PRP (Properties)
(intramol.; role of ruthenium and rhenium diimine complexes in conjugated polymers)
IT Hole mobility
(mobilities of; role of ruthenium and rhenium diimine complexes in conjugated polymers)
IT Cyclic voltammetry
Electric current-potential relationship
Luminescence
Luminescence, electroluminescence
(role of ruthenium and rhenium diimine complexes in conjugated polymers)
IT Poly(arylenealkenylenes)
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT **Electroluminescent** devices
(single-layer; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 50926-11-9, ITO
RL: **DEV (Device component use)**; USES (Uses)
(electrode; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 1802-30-8, 2,2'-Bipyridine-5,5'-dicarboxylic acid 6813-38-3, 2,2'-Bipyridine-4,4'-dicarboxylic acid
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(ligand synthesis; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 50907-23-8P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(ligand synthesis; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 385767-23-7
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(ligand; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 385767-22-6P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(ligand; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 202667-34-3P 264916-72-5P 386706-87-2P 386706-89-4P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**metal** complex monomer; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 2923-28-6, Silver trifluoromethanesulfonate 19542-80-4
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(monomer synthesis; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 216964-54-4P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer synthesis; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 78-30-8P, Tri-o-tolylphosphate 102-82-9P, Tri-n-butylamine
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(polymerization catalyst; role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT **385767-24-8P 385767-25-9P 385767-26-0P 386706-90-7P 386706-91-8P 386706-92-9P 386706-94-1P 386706-95-2P 386706-97-4P 386706-99-6P**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(role of ruthenium and rhenium diimine complexes in conjugated polymers)

IT 623-00-7, 1-Bromo-4-Cyanobenzene 14099-01-5, Rhenium pentacarbonyl chloride 17084-13-8, Potassium hexafluorophosphate 26628-22-8, Sodium

azide 100125-12-0, 3,8-Dibromo-1,10-phenanthroline
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(role of ruthenium and rhenium diimine complexes in conjugated polymers)

RE.CNT 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L85 ANSWER 20 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:723659 CAPLUS
DN 133:328334
ED Entered STN: 13 Oct 2000
TI Multi-component multiphase type polymer material and its use in functional element.
IN Hiraoka, Toshiro; Asakawa, Koji
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L051-00
ICS C08F291-00; C08F297-00; H01L031-04; H01L033-00
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 73
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000286479	A2	20001013	JP 1999-87094	19990329
	US 6391471	B1	20020521	US 2000-536684	20000328
PRAI	JP 1999-87094	A	19990329		

AB The polymer material has 3-dimensionally continuous nanophase separation structure and comprises phase A which is an aggregate of hole- or electron-conductive polymer chain and phase B which is an aggregate of another hole- or electron conductive polymer chain, and the two phases are chemical bonded at the interfaces. The functional element comprises the above material sandwiched between a pair of electrode. Preferably, the polymer material is A-B or B-A-B type block copolymers. The functional elements are useful in solar cells, photoelec. converters, capacitors, and other **electronic** devices.
ST conductive block copolymer **electronic** device
IT Capacitors
Electrochromic devices
Electroluminescent devices
Secondary batteries
Transistors
(based on conductive conjugated block copolymers)
IT Silsesquioxanes

RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(based on conductive conjugated block copolymers)

IT Photoelectric devices
(converters; based on conductive conjugated block copolymers)

IT 113782-99-3P 302841-76-5P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(capacitors containing conjugated conductive block copolymers)

IT 302841-70-9P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(diblock; electrochromic devices containing conjugated conductive block copolymers)

IT 302841-63-0P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(diblock; **electroluminescent** devises containing conjugated conductive block copolymers)

IT 302841-68-5P 302841-69-6P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(**electroluminescent** devises containing conjugated conductive block copolymers)

IT 302841-77-6DP, block polymer with silsesquioxane
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(**electronic** devices containing conjugated conductive block copolymers)

IT **302896-97-5P**
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(photoelec. converters containing conjugated conductive block copolymers)

IT 302841-72-1P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(triblock; batteries containing conjugated conductive block copolymers)

IT 302841-74-3P 302841-75-4P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(triblock; capacitors containing conjugated conductive block copolymers)

IT 302841-67-4P
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(triblock; **electroluminescent** devises containing conjugated conductive block copolymers)

L85 ANSWER 21 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:573593 CAPLUS
DN 133:200910
ED Entered STN: 18 Aug 2000
TI Fabrication of **electronic** devices containing a columnar discotic phase
IN Lupo, Donald; Yasuda, Akio; Nelles, Gabriele
PA Sony International (Europe) G.m.b.H., Germany

SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM H01L051-20
ICS H01L051-30
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 52, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1028475	A1	20000816	EP 1999-102473	19990209
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6281430	B1	20010828	US 2000-500765	20000208
JP 2000232232	A2	20000822	JP 2000-38134	20000209
PRAI EP 1999-102473	A	19990209		

AB An **electronic** device comprising two adjacent regions of materials with different elec. properties was characterized in that one of the regions is formed by a columnar structure of a discotic liquid crystal material, said structure having interspaces defined between columns of said discotic liquid material, said interspaces being part of the other region and comprising a 2nd material having elec. properties and conductivity type different from those of said discotic liquid crystal. The invention also relates to a method for producing such an **electronic** structure. This **electronic** structure may be used in optoelectronic devices, e.g. solar cells.

ST **electronic** device fabrication discotic mesophase; solar cell fabrication; photodetector fabrication; LED fabrication; electrochromic device fabrication; phthalocyanine crosslinking **electronic** device; triphenylene **electronic** device

IT Liquid crystals
(discotic; fabrication of **electronic** devices containing columnar discotic phase)

IT Electrochromic devices
Electroluminescent devices
Electronic device fabrication
Optical detectors
Optical imaging sensors
Optoelectronic semiconductor devices
Photoelectric devices
Solar cells
(fabrication of **electronic** devices containing columnar discotic phase)

IT Amorphous materials
Chemisorption
Crosslinking
Solvent effect
(in fabrication of **electronic** devices containing columnar discotic phase)

IT **Metallophthalocyanines**
Polyoxadiazoles
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(in fabrication of **electronic** devices containing columnar discotic phase)

IT 217-59-4D, Triphenylene, derivs. 1493-13-6D, Trifluoromethylsulfonic acid, phthalocyanine compds. 7429-90-5, Aluminum, processes 7789-24-4, Lithium fluoride, processes 95270-88-5D, Polyfluorene, alkyl derivs.
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in fabrication of **electronic** devices containing columnar discotic phase)

IT **288851-14-9P**
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process); USES (Uses)
(in fabrication of **electronic** devices containing columnar discotic phase)

IT **288851-16-1P**
RL: **DEV (Device component use)**; SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(in fabrication of **electronic** devices containing columnar discotic phase)

IT 108-88-3, Toluene, processes 108-94-1, Cyclohexanone, processes 288851-13-8 288851-15-0
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in fabrication of **electronic** devices containing columnar discotic phase)

IT 50926-11-9, Indium tin oxide
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrates; in fabrication of **electronic** devices containing columnar discotic phase)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(2) Basf Ag; DE 19543637 A 1997 CAPLUS
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L85 ANSWER 22 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2000-387223 [33] WPIX
DNN N2000-289909 DNC C2000-117459
TI Materials for use in **electroluminescent** devices comprises an organic **complex** of a transition **metal**, lanthanide or an actinide.
DC A14 A26 A85 E19 L03 U11 U14 X12 X26
IN KATHIRGAMANATHAN, P
PA (UYSB-N) UNIV SOUTH BANK ENTERPRISES LTD
CYC 88
PI WO 2000026323 A1 20000511 (200033)* EN 25p C09K011-06
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR

TT UA UG US UZ VN YU ZA ZW
AU 2000010562 A 20000522 (200040)
EP 1131388 A1 20010912 (200155) EN C09K011-06
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT SE SI
BR 9915252 A 20011204 (200203) C09K011-06
KR 2001080930 A 20010825 (200215) C09K011-07
CN 1325431 A 20011205 (200223) C09K011-06
JP 2002528633 W 20020903 (200273) 24p C09K011-06
AU 754481 B 20021114 (200303) C09K011-06
MX 2001004402 A1 20020301 (200362) C09K011-06

ADT WO 2000026323 A1 WO 1999-GB3619 19991102; AU 2000010562 A AU 2000-10562 19991102; EP 1131388 A1 EP 1999-954123 19991102, WO 1999-GB3619 19991102; BR 9915252 A BR 1999-15252 19991102, WO 1999-GB3619 19991102; KR 2001080930 A KR 2001-705447 20010430; CN 1325431 A CN 1999-812949 19991102; JP 2002528633 W WO 1999-GB3619 19991102, JP 2000-579697 19991102; AU 754481 B AU 2000-10562 19991102; MX 2001004402 A1 WO 1999-GB3619 19991102, MX 2001-4402 20010502

FDT AU 2000010562 A Based on WO 2000026323; EP 1131388 A1 Based on WO 2000026323; BR 9915252 A Based on WO 2000026323; JP 2002528633 W Based on WO 2000026323; AU 754481 B Previous Publ. AU 2000010562, Based on WO 2000026323; MX 2001004402 A1 Based on WO 2000026323

PRAI GB 1998-23761 19981102

IC ICM C09K011-06; C09K011-07
ICS C07C049-92; C07D213-50; C07D317-04; C07F005-00; H01L051-20; H05B033-14; H05B033-22

AB WO 200026323 A UPAB: 20000712
NOVELTY - Photoluminescent and **electroluminescent** materials comprising an organic **complex** of a transition **metal**, lanthanide or an actinide and an organic ligand are new. Photoluminescent materials emit light in the blue or purplish blue spectrum, **electroluminescent** materials also emits light in the same spectrum when electric current is passed through it.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(i) a composition which comprises an inert **polymer** and **electroluminescent** materials (5 - 95 weight%); and
(ii) an **electroluminescent** device which comprises **electroluminescent** materials deposited on a transparent substrate.
USE - To form **electroluminescent** devices(claimed).
ADVANTAGE - The compounds are stable. The hole transporting layer blocks the electrons from moving into the electrode without recombining with the holes.
Dwg.0/6

FS CPI EPI
FA AB; DCN
MC CPI: A12-E11; E24-A03; L03-C04; L03-D01D
EPI: U11-A15; U14-J02A; X12-D02A1; X26-J

L85 ANSWER 23 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2000-126831 [11] WPIX
CR 1996-455560 [45]; 1998-207014 [18]; 2000-365733 [31]
DNN N2000-095561 DNC C2000-038732
TI Device used for detecting analytes in fluid which includes gases, vapors and liquids.
DC A35 B04 D16 D25 J04 K07 S03

IN BRIGLIN, S; DOLEMAN, B J; LEWIS, N S; SEVERIN, E J
PA (CALY) CALIFORNIA INST OF TECHNOLOGY
CYC 87
PI WO 2000000808 A2 20000106 (200011)* EN 48p G01N000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9948210 A 20000117 (200026)
EP 1084390 A2 20010321 (200117) EN G01N001-00
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
US 6537498 B1 20030325 (200325) G01N027-00
US 2003159927 A1 20030828 (200357)# G01N027-26
ADT WO 2000000808 A2 WO 1999-US12904 19990608; AU 9948210 A AU 1999-48210 19990609; EP 1084390 A2 EP 1999-931777 19990608, WO 1999-US12904 19990608; US 6537498 B1 Cont of US 1995-410809 19950327, Cont of US 1996-689227 19960807, CIP of US 1997-986500 19971208, Provisional US 1998-88680P 19980609, Provisional US 1999-118833P 19990205, US 1999-328871 19990608; US 2003159927 A1 Cont of US 1995-410809 19950327, Cont of US 1996-689227 19960807, CIP of US 1997-986500 19971208, Cont of US 1999-328871 19990608, US 2002-266550 20021007
FDT AU 9948210 A Based on WO 2000000808; EP 1084390 A2 Based on WO 2000000808; US 6537498 B1 Cont of US 5571401, Cont of US 5698089, CIP of US 6010616; US 2003159927 A1 Cont of US 5571401, Cont of US 5698089, CIP of US 6010616, Cont of US 6537498
PRAI US 1999-118833P 19990205; US 1998-88680P 19980609; US 1995-410809 19950327; US 1996-689227 19960807; US 1997-986500 19971208; US 1999-328871 19990608; US 2002-266550 20021007
IC ICM G01N000-00; G01N001-00; G01N027-00; G01N027-26
ICS G01N027-02; G01N027-327
AB WO 200000808 A UPAB: 20040226
NOVELTY - A device used for detecting chemical analyte, comprises a sensor array with at least one sensor having regions of nonconductive and conductive material, and a response path through the regions of the two material. The two materials have different compositions and the conductive material contains a nanoparticle. The sensor array is connected to a measuring apparatus.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an analyte device for detecting a chemical analyte, comprising a sensor array having at least one sensor comprising first and second electrical leads electrically connected to a chemically sensitive resistor, the resistor comprises a nanoparticle and provides an electrical path to the leads; and an **electronic** measuring **device** electrically connected to the sensor for detecting the chemical analyte.

USE - The device is used for detecting analytes in fluid which includes gases, vapors and liquids. It is particularly useful in constructing electronic noses for analyzing complex vapors and producing a sample output.

ADVANTAGE - None given.

Dwg.0/11
FS CPI EPI
FA AB; DCN

MC CPI: A12-E; A12-L04; A12-W11; B04-B03C; B04-C01; B04-C02; B04-C03; B04-N04; B05-A03; B12-K04; D05-H09; D05-H18; J04-B; J04-C04; K07-A
EPI: S03-E

L85 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:690845 CAPLUS
DN 134:5212
ED Entered STN: 02 Oct 2000
TI Synthesis of Polymers with Alternating Organosilanylene and Oligothienylene Units and Their Optical, Conducting, and Hole-Transporting Properties
AU Ohshita, Joji; Takata, Atsuhiro; Kai, Hiroyuki; Kunai, Atsutaka; Komaguchi, Kenji; Shiotani, Masaru; Adachi, Akira; Sakamaki, Koichi; Okita, Koichi; Harima, Yutaka; Kunugi, Yoshihito; Yamashita, Kazuo; Ishikawa, Mitsuo
CS Department of Applied Chemistry Faculty of Engineering, Hiroshima University, Higashi-Hiroshima, 739-8527, Japan
SO Organometallics (2000), 19(22), 4492-4498
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29, 36, 73, 76
AB Polymers with alternating mono-, di-, or trisilanylene units and 2,5-oligothienylene groups, [(SiR2)x(C4H2S)m]n (R = Me, Et, x = 1-3, m = 2-5), were synthesized and their optical, conducting, and hole-transporting properties were investigated. The UV absorption and emission maxima of the polymers shift to lower energies as the number of thienylene groups (m) between the silanylene units increases, while they are little affected by the silicon chain length (x). When the polymer films were exposed to FeCl3 vapor, semiconducting films with the conductivities of 1.3 + 10-4-2.3 + 10-1 S/cm were obtained. The conductivities tend to increase with m but decrease with increasing x. The double-layer-type **EL** devices were fabricated using some of the polymers (x = 1, m = 3-5; x = 2, m = 4) as the hole-transporting layer and tris(8-quinolinolato)aluminum(III) (Alq) as the electron-transporting-emitter layer. Reducing the number of m and x resulted in a high-voltage shift in the turn-on voltage and a decrease in the maximum c.d. of the device. The highest luminance of 2000 cd/m2 was obtained from a device based on the disilanylene-tetrathienylene alternating polymer (x = 2, m = 4).
ST polysilane polythienylene synthesis band gap elec cond hole transport; **electroluminescence** device alternating organosilanylene oligothienylene polymer
IT **Electronic** state
(calculated for model compds. at PM3 level; of polymers with alternating organosilanylene and oligothienylene units)
IT Crystal structure
(of 1,2-bis(5'-bromo-2,2'-dithien-5-yl)tetraethyldisilane)
IT Band gap
Electric conductivity
Fluorescence
Hole transport
UV and visible spectra

(of polymers with alternating organosilanylene and oligothienylene units)

IT Polysilanes
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(polythiophene-; synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT Conducting polymers
Electroluminescent devices
(synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT 7439-95-4, Magnesium, uses
RL: **DEV (Device component use)**; USES (Uses)
(anode; band gap energy calculated for model compds. of polymers with alternating organosilanylene and oligothienylene units at PM3 level)

IT 308284-21-1 308284-22-2 308284-23-3 308284-24-4
RL: PRP (Properties)
(band gap energy calculated for model compds. of polymers with alternating organosilanylene and oligothienylene units at PM3 level)

IT 7440-22-4, Silver, uses
RL: **DEV (Device component use)**; USES (Uses)
(cathode; band gap energy calculated for model compds. of polymers with alternating organosilanylene and oligothienylene units at PM3 level)

IT 175658-79-4
RL: PRP (Properties)
(crystal structure of)

IT 7705-08-0, Ferric chloride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(dopant; synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT 50926-11-9, ITO
RL: **DEV (Device component use)**; USES (Uses)
(electrode; band gap energy calculated for model compds. of polymers with alternating organosilanylene and oligothienylene units at PM3 level)

IT 2085-33-8, 8-Hydroxyquinolinealuminum
RL: **DEV (Device component use)**; USES (Uses)
(electron transporting-emitting layer; band gap energy calculated for model compds. of polymers with alternating organosilanylene and oligothienylene units at PM3 level)

IT 1719-53-5, Dichlorodiethylsilane 3141-27-3, 2,5-Dibromothiophene
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(monomer synthesis; synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT 287936-09-8P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT 175658-71-6P 175658-72-7P 175658-78-3P 244264-22-0P 244264-23-1P
287936-16-7P 308284-17-5P 308284-25-5P

RL: **DEV (Device component use)**; PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT **130904-51-7** 146622-84-6
RL: PRP (Properties)
(synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

IT 175658-70-5P 175658-73-8P 175658-77-2P 224433-59-4P 224433-60-7P
224433-61-8P 244264-20-8P 244264-21-9P 263718-41-8P 308284-15-3P
308284-16-4P 308284-18-6P 308284-19-7P 308284-26-6P
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis of polymers with alternating organosilanylene and oligothienylene units and their optical, conducting, and hole-transporting properties)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L85 ANSWER 25 OF 29 CAPLUS
AN 1999:558346 CAPLUS

DN 131:322983
ED Entered STN: 02 Sep 1999
TI Synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes
AU Chan, Wai Kin; Ng, Po King; Gong, Xiong; Hou, Sijian
CS Department of Chemistry, University of Hong Kong, Hong Kong
SO Journal of Materials Chemistry (1999), 9(9), 2103-2108
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73
AB Two series of **luminescent** conjugated **polymers** based on rhenium(I) or ruthenium(II) dipyridophenazine complexes were synthesized by the palladium-catalyzed coupling reaction using divinylbenzene and aromatic dibromides as the monomers. From the photoluminescence spectra, an energy transfer process between the conjugated backbone and the **metal complexes** is proposed. The ruthenium-containing **polymers** were fabricated into light emitting devices because of their better film forming qualities. The **electroluminescence** (**EL**) of the **polymers** originated from the emission due to the π^*-π or π^*-d transitions. Depending on the **metal complex** content, the **polymers** exhibit different absorption and **EL** spectra. The devices exhibit a turn-on voltage of 10 V and external quantum efficiency of 0.6%. From the cyclic voltammetry results, an addnl. oxidation couple was observed after the incorporation of the ruthenium complex which may contribute to the charge transport process. This was further supported by the charge mobilities measurement in which the electron and hole mobilities of the **polymers** are enhanced by the **metal complex** and are of the order of 10-4 cm2 V-1 s-1.
ST dipyridophenazine **metal complex** conjugated **polymer**; rhenium dipyridophenazine complex conjugated **polymer**; ruthenium dipyridophenazine complex conjugated **polymer**; **electronic** property **metal** dipyridophenazine **complex polymer**; light emitting diode **metal** contg **polymer**
IT **Polymers**, preparation
RL: **DEV (Device component use)**; PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(conjugated; synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)
IT **Polymerization**
(palladium-catalyzed coupling reaction of rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)
IT Cyclic voltammetry
Electroluminescent devices
Electron mobility
Hole mobility
Luminescence
Luminescence, electroluminescence

UV and visible spectra
(synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)

IT Poly(arylenealkenylenes)
RL: **DEV (Device component use)**; PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)

IT 248280-95-7P
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process)
(monomer; for synthesis of conjugated **polymers**)

IT 3375-31-3
RL: CAT (Catalyst use); USES (Uses)
(**polymerization** catalyst; in synthesis of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)

IT 200503-12-4
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reactant; in synthesis of rhenium complex as monomer for preparation of conjugated **polymers**)

IT 14099-01-5, Pentacarbonylrhenium chloride
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reactant; in synthesis of rhenium phenazine complex as monomer for preparation of conjugated **polymers**)

IT **248243-63-2P**
RL: **DEV (Device component use)**; PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)

IT 248243-62-1P **248243-64-3P 248280-96-8P**
248280-97-9P
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis and **electronic** properties of conjugated **polymers** based on rhenium or ruthenium dipyridophenazine complexes, dibromodihexylquinoxaline and divinylbenzene)

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L85 ANSWER 26 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:173784 CAPLUS
DN 130:325447
ED Entered STN: 17 Mar 1999
TI **Electronic** and Light-Emitting Properties of Some Polyimides Based on Bis(2,2':6',2''-terpyridine) Ruthenium(II) Complex
AU Ng, Wai Yue; Gong, Xiong; Chan, Wai Kin
CS Department of Chemistry, University of Hong Kong, Hong Kong
SO Chemistry of Materials (1999), 11(4), 1165-1170
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
AB Novel aromatic polyimides that contain bis(2,2':6',2''-terpyridine) ruthenium(II) complex were synthesized, and their optoelectronic properties were studied. The optical absorption band at 500 nm was strongly enhanced by the presence of the ruthenium complex. As a result, the photosensitivity of the polyimides in the visible region increased, as did the photocond. The glass transition temperature of the polyimides is approx. 220° and they also exhibit modest thermal stability. The electron mobility and hole carrier mobility of the polyimides are on the order of 10-4 cm2 V-1 s-1, which suggests that the electron-withdrawing diimide moieties play a role in the charge transport process. Emission from the **metal complexes** and charge transfer states were observed in these **polymers.** The polyimides also exhibited **electroluminescent** behavior when the **polymer** films were fabricated into single-layered test light-emitting diodes. The external quantum efficiency and maximum luminance of the devices were 0.1% and 120 cd/m2, resp.
ST polyimide terpyridine ruthenium prepn optoelectronic property; photocond charge transfer ruthenium terpyridine arom polyimide; light emitting device quantum efficiency ruthenium terpyridine polyimide
IT Polyimides, preparation

RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(aromatic, fluorine-containing, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(aromatic, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT Charge transfer state
Electron mobility
Electron-hole pairs
Electrooptical absorption
Glass transition temperature
Photoconductivity
Thermal stability
(**electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(fluorine-containing, aromatic, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT **Electroluminescent devices**
(light-emitting diodes; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(polyether-, aromatic, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT Fluoropolymers, preparation
Polyethers, preparation
Polyethers, preparation
Polyketones
Polyketones
Polysulfones, preparation
Polysulfones, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(polyimide-, aromatic, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(polyketone-, aromatic, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine)

ruthenium(II) and aromatic dianhydrides)

IT Polyimides, preparation
Polyimides, preparation
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(polysulfone-, aromatic, ruthenium terpyridine containing; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 17084-13-8, Potassium hexafluorophosphate (KPF6)
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(counterion reactant; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 7429-90-5, Aluminum, uses 50926-11-9, ITO
RL: **DEV (Device component use)**; USES (Uses)
(electrode; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT **223921-20-8P**, Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate-pyromellitic dianhydride copolymer **223921-21-9P**, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate copolymer **223921-22-0P**, Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate-4,4'-(Hexafluoroisopropylidene)diphthalic anhydride copolymer **223921-23-1P**, Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate-4,4'-Oxydiphthalic anhydride copolymer **223921-25-3P**, Biphenyl tetracarboxylic dianhydride-Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate copolymer **223921-28-6P**, Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate-3,3',4,4'-diphenyl sulfone tetracarboxylic dianhydride copolymer
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(**electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 129077-51-6, 4'-(4-Nitrophenyl)-2,2':6',2''-terpyridine
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(**electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 178265-65-1P
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(intermediate; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 196202-22-9P, Bis[4'-(4-aminophenyl)-2,2':6',2''-terpyridyl]ruthenium(II) Hexafluorophosphate
RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 10049-08-8, Ruthenium trichloride
RL: **RCT (Reactant)**; RACT (Reactant or reagent)

(reactant; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

IT 7772-99-8, Tin(II) chloride, reactions
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reducing agent; **electronic** and light-emitting properties of polyimides based on bis(terpyridine) ruthenium(II) and aromatic dianhydrides)

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L85 ANSWER 27 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:496820 CAPLUS
DN 133:327374
ED Entered STN: 24 Jul 2000
TI Development of **metal**-containing polymers for optoelectronic applications
AU Chan, Wai Kin; Hou, Sijian; Ng, Po King; Wong, Chi Tak; Yu, Sze Chit
CS Dep. Chem., Univ. of Hong Kong, Hong Kong, Peop. Rep. China
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3896(Design, Fabrication, and Characterization of Photonic

Devices), 223-230
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB Most of the work in organic **electroluminescent** polymers was focused on organic conjugated polymers. However, polymers attached with transition **metal** complex have received relatively less attention. The authors synthesized and studied the light emitting properties of some **metal** containing polymers based on the polypyridine complexes of Re and Ru. These complexes exhibit long-lived excited states caused by the **metal** to ligand charge transfer transitions. By varying the structure of the ligand and/or the transition **metal**, the authors are able to fine-tune the **electronic** properties of the resulting **metal** complexes.
ST polyphenylene vinylene ruthenium bipyridine terpyridine LED
IT Polymers, properties
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(conjugated; development of **metal**-containing polymers for optoelectronic applications)
IT **Electroluminescent** devices
Luminescence, electroluminescence
UV and visible spectra
(development of **metal**-containing polymers for optoelectronic applications)
IT Transition **metal** complexes
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(development of **metal**-containing polymers for optoelectronic applications)
IT Electric current carriers
(mobility; development of **metal**-containing polymers for optoelectronic applications)
IT 92583-93-2P **193484-92-3P 193484-95-6P**
RL: **DEV (Device component use)**; PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process); USES (Uses)
(development of **metal**-containing polymers for optoelectronic applications)
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L85 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
AN 1998:451041 CAPLUS
DN 129:136506
ED Entered STN: 22 Jul 1998
TI π-Conjugated **polymers** bearing electronic and optical functionalities. Preparation, properties and their applications
AU Yamamoto, Takakazu; Hayashida, Naoki
CS Research Laboratory of Resources Utilization, Tokyo Institute of Technology, Yokohama, 226, Japan
SO Reactive & Functional Polymers (1998), 37(1-3), 1-17
CODEN: RFPOF6; ISSN: 1381-5148
PB Elsevier Science B.V.
DT Journal; General Review
LA English
CC 35-0 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73, 76
AB A review with 54 refs. Various π-conjugated **polymers** are obtained by using organometallic polycondensation mediated by organotransition-**metal complexes**. For example, Ni(O) complex-mediated dehalogenation polycondensation of dihaloarom. compds. XArX affords poly(arylene)s (Ar)n. These **polymers** show interesting electronic and optical properties and have already found several useful future applications such as battery, **EL** (**electroluminescence**), diode, nonlinear optical device, etc. In this review, preparation, basic properties and practical applications for **electronic** and optical **devices** of π-conjugated **polymers** were described.
ST review conjugated **polymer** prepn organometallic polycondensation; nonlinear optical property conjugated **polymer** review; elec property conjugated **polymer** review; **electroluminescence** conjugated **polymer** review; battery conjugated **polymer** review
IT Organometallic compounds
RL: CAT (Catalyst use); USES (Uses)
(catalyst; preparation, properties and applications of π-Conjugated **polymers** bearing electronic and optical functionalities)
IT **Polymers**, preparation
RL: MSC (Miscellaneous); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(conjugated; preparation, properties and applications of π-Conjugated **polymers** bearing electronic and optical functionalities)
IT **Polymerization** catalysts
(for preparation of π-Conjugated **polymers** bearing electronic and optical functionalities)

IT Conducting **polymers**
Electric conductivity
Luminescence, electroluminescence
Nonlinear optical materials
Nonlinear optical properties
Optical properties
Polymerization
(preparation, properties and applications of π-Conjugated **polymers** bearing electronic and optical functionalities)

IT Polyphenyls
RL: MSC (Miscellaneous); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation, properties and applications of π-Conjugated **polymers** bearing electronic and optical functionalities)

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L85 ANSWER 29 OF 29 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1995-136919 [18] WPIX

DNN N1995-107782 DNC C1995-063155
TI Crown moiety-containing peptide - useful as detector of sodium and potassium ions, **electronic device** material, etc..
DC A23 A89 E34 J04 L03 S03 U11
PA (AGEN) AGENCY OF IND SCI & TECHNOLOGY
CYC 1
PI JP 07062088 A 19950307 (199518)* 5p C08G069-02
JP 2500329 B2 19960529 (199626) 5p C08G069-08
ADT JP 07062088 A JP 1991-132233 19910509; JP 2500329 B2 JP 1991-132233 19910509
FDT JP 2500329 B2 Previous Publ. JP 07062088
PRAI JP 1991-132233 19910509
IC ICM C08G069-02; C08G069-08
AB JP 07062088 A UPAB: 19970502
An aminoacid(s) **polymer** X(NH(CORNH)n-H)m (I) having crown compound residue (II) in the main chain is new. R = opt. substd. 1-10C alkylene; X = crown cpd. residue; m = 1, 2 3; and n = 10-5000. Also claimed is the preparation of (I) comprising (1) **polymerisation** of aminoacid(s) (III) using amino gp(s).-containing crown cpd(s). (IV) as **polymerisation** initiator, or (2) condensation of aminoacid(s) **polymer** HO(CORNH)n-H (V) with crown cpd(s). X(NCO)m (VI).

Crown cpds. having phenyl gp(s). substd. with amino gp(s). is used as pref. (IV). Crown cpd(s). having isocyanate gp(s). is used as pref. (VI). (I) is prepared by reaction of NH2RCOOH (III) with X(NH2)m (IV) (pref. aminobenzo-15-crown-5 (IVa)).

USE/ADVANTAGE - (I) has affinity to a specific metal ion, and is useful as a detector of a specific metal ion (especially alkali metal ion) and/or agent for quantitative analysis of a specific metal ion, as an **electronic device** material or sensor material, etc. (I) selectively forms **fluorescent complex**(es) with a specific **metal** ion.

Dwg.0/1
FS CPI EPI
FA AB; GI; DCN
MC CPI: A05-F03; A10-E17; A12-E13; A12-L04B; E06-H; E07-H; J04-B01B; L03-J
EPI: S03-E03; S03-E04D; U11-A09

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